"Oh, Jack! ..the dentist gives me the most TERRIBLE news"

FEW things of common occurrence are more terrifying than the prospect of losing one's teeth. A single tooth seems like a small matter while in its proper place, but when it comes out the gap is enormous, and seemingly the eyes of the world are upon that place.

In time the dentist will repair the damage skillfully, but first there will be ugly days of self-consciousness and dread. Trying to talk or smile behind closed lips . . . the hand held before the face . . . hoping not to meet people . . .

The dentist would rather prevent

Yes, dental surgeons have grown very skillful, but the modern expert takes more pride in prevention than he does in repair. Make a professional confidant of your dentist, both with respect to your own teeth and those of your children.

Nobody today believes that simple polishing is all that is needed to keep healthy teeth. There is much more to it than that. When teeth come out, there is a deeper cause for it than the mere cleanliness or non-cleanliness of the surface enamel. And when it is stated that over one-half of the adult teeth lost can be charged against *pyorrhea*, it will be realized just what this "deeper cause" actually is! One great danger in pyorrhea is the fact that people often think they understand it when they really do not. It works so insidiously that it may undermine the gums for several years before making its presence known. That is why, among people over forty, we have the astounding proportion of 80% pyorrhea sufferers (four out of five).

Probably the best-known name in the entire country in connection with pyorrhea is the name of Dr. R. J. Forhan. Thousands of dentists from coast to coast, and all over the world, are using Forhan's Pyorrhea Astringent, an ethical preparation solely for the use of the dental profession. The dentists themselves take pyorrhea very seriously and it will pay every man and woman to take it seriously, too.

A lifetime devoted to pyorrhea

Dr. Forhan worked for 26 years in this field and the fruit of his experience is available in the products that bear his name. Don't wait for bleeding gums or similar signals of trouble. Take up the use of Forhan's Toothpaste in your home both night and morning. Brush your teeth and massage your gums *according to directions*. And please remember that this Forhan principle is a "plus," an extra, an added safeguard for the *protection* of your teeth and gums.

Take the care of teeth seriously

The important point is *to get ahead* of pyorrhea. Don't give it a chance to seep down silently from the gum line. Forhan's will not do the work by itself. You yourself must take the matter seriously, in your own case and for the children. And quite aside from its other virtues, Forhan's is the finest toothpaste money can buy—pleasant, agreeable, long-lasting. Start with Forhan's today — *Forhan's*, the double-duty toothpaste in the big brown tube. Forhan Company, Inc., New York, N. Y. Forhan's, Ltd., Ste. Therese, P. Q.

SERIOUS THOUGHT ABOUT TEETH LEADS TO THE USE OF FORHAN'S

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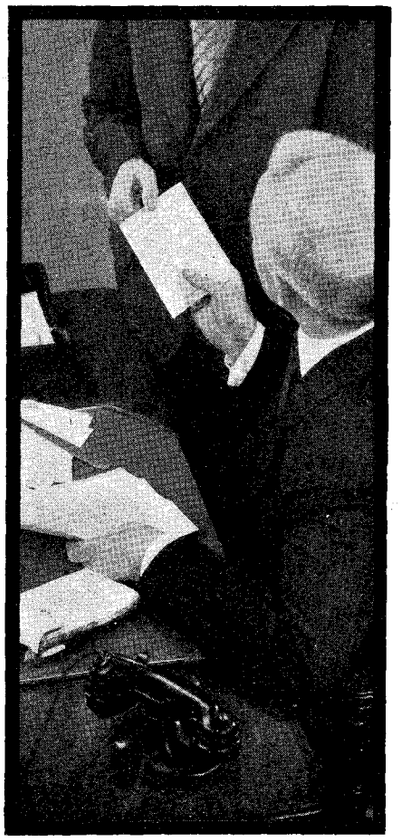
TO EVERY MAN WHO EMPLOYS MEN —or hopes to



EMPLOYERS today realize that more is expected of them than merely the payment of salaries. Because of their greater experience, their prestige, they are naturally looked to by their employees for personal advice.

Are you, as an employer, ready to help should one of your men come to you with the very trying problem of funeral arrangements? Could you recommend a funeral director in whom he could place full confidence? How would you advise him to go about selecting an appropriate casket at an appropriate cost?

Your own business purchases are guided largely by the reputation of the manufacturer. This is doubly important in any purchase so unfamiliar as that of a casket. The National Casket Company, for fifty years the leader in its field, makes caskets in every grade —at every price. Each casket is trademarked so that you may identify it easily. This National trademark is an honored pledge of value.

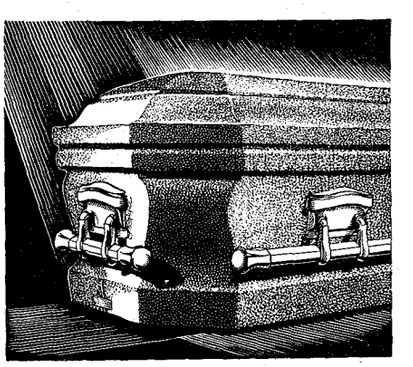
You may be reasonably assured, too, that funeral directors furnishing National Caskets are men who, in recommending the best, believe in serving their clients well.

These are but one or two of the many angles of a little-known subject discussed in our booklet, "Funeral Facts." Everyone should have a copy —if only to put away until needed. Employers may wish several copies—to give, perhaps, to those who come to them for advice. Funeral directors who sell National Caskets have them. Or write us. Dept. D-2, 60 Massachusetts Avenue, Boston, Mass.

National Textile Covered Caskets cost no more. They are available in a wide variety of styles, in every grade and at every price. These designs, as well as National Caskets of polished hardwood and metal, are sold only through funeral directors. The National trademark appears on the end of every National Casket. It specifies material and guarantees quality.

NATIONAL CASKET COMPANY, INC. CYPRESS

Ask your funeral director to point the trademark out to you.



NATIONAL CASKET COMPANY, INC.

Display Rooms in Thirty Cities—Funeral Directors everywhere sell National Caskets

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for FEBRUARY 13, 1932

VOLUME 112 NUMBER 7

Published at 354-360 Fourth Avenue New York

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The Literary Digest

NEW YORK, FEBRUARY 13, 1932

TOPICS OF THE DAY

Another Huge 20,000,000-Vote Prohibition Poll

THE UNITED STATES GOVERNMENT can not very well do it.

Very well, THE LITERARY DIGEST will do it.

The Constitution of the United States has no provision for a referendum on any question—no matter how urgent, how imperative, how vital.

Constitutional conventions can be called in the various States, but such a method would be cumbersome, costly, slow.

In a few swift weeks, however, a LITERARY DIGEST poll can canvass the entire nation, from sea to sea, reaching every city, town, and hamlet in every State in our great Union.

Many calls have poured into this office that we take another poll on Prohibition. Tests we have made by mail show intense interest burning at fever heat on this question—much more fervid, indeed, than the interest felt at this time in the Presidential election.

Every indication shows as clear as daylight that the public are enthusiastic for such a poll.

To meet this unmistakable demand, 20,000,000 or more post-card ballots are at this moment beginning to sift down like a nation-wide snowstorm over the land.

Only two questions face the voter in this poll. They are:

"Do you favor the continuance of the Eighteenth (Prohibition) Amendment?"

"Do you favor a repeal of the Eighteenth (Prohibition) Amendment?"

Just for or against. No middle column. No chance for dispute.

Simplicity leading to lucidity—that's the key-note of our new 20,000,000-ballot poll to obtain a cross-section of national opinion on an issue which is confusing the leaders of both political parties.

And that in a Presidential Election year of uncommonly anxious importance.

Such is the tremendous enterprise that THE DIGEST has now launched. A fitting climax to its historic series of national polls, whose "uncanny accuracy" has become a proverb.

Our 1930 Prohibition poll, with its middle column for a modificationist vote, brought in the unprecedented total return of 4,806,464 correctly marked ballots, divided thus:

For Enforcement, 1,464,098; for Modification, 1,399,314; for Repeal, 1,943,052.

Both wets and drys set up claims to the Modificationist vote.

This time there'll be no bone of contention.

SINCE then many things have happened to make Prohibition a more vibrant issue in the national life. Its adherents and organized forces have made a powerful alliance in its support. The organizations against it have increased in number and activity.

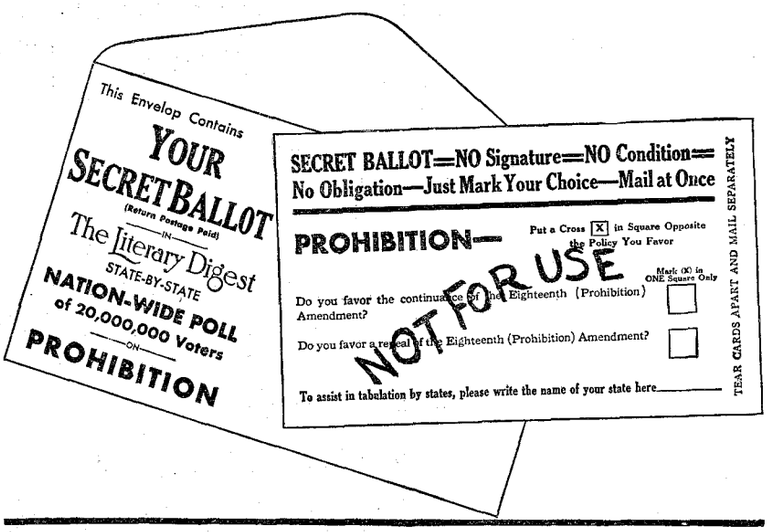
How do the people stand?

Ballots of THE LITERARY DIGEST's two-question poll are pouring in hundreds of thousands through the country's mail routes, often at the rate of a million and a half a day.

It is quite needless to say that THE LITERARY DIGEST is absolutely impartial in this poll. Over forty years of square dealing have convinced the nation of our integrity. We distribute the ballots and count the returns. The result is in the hands of the voters.

Let no one miss his ballot. Watch for it in the mail. Do not carelessly throw it away unread. Mark and mail it at once before it is lost.

The first returns will appear in our issue of next week. From that date onward the figures will swell by thousands and hundreds of thousands in each succeeding issue until the final tabulation is reached. Meanwhile the news of the poll from day to day will be given to the world by Lowell Thomas, THE LITERARY DIGEST's "Voice on the Air," who was the first to announce this great popular referendum.


This Envelop Contains
YOUR SECRET BALLOT
(Return Postage Paid)
IN
The Literary Digest
STATE-BY-STATE
NATION-WIDE POLL
of 20,000,000 Voters
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PROHIBITION
SECRET BALLOT—NO Signature—NO Condition—
No Obligation—Just Mark Your Choice—Mail at Once
PROHIBITION—
Put a Cross [X] in Square Opposite the Policy You Favor
Mark (X) in ONE Square Only
Do you favor the continuance of the Eighteenth (Prohibition) Amendment?
Do you favor a repeal of the Eighteenth (Prohibition) Amendment?
NOT FOR USE
To assist in tabulation by states, please write the name of your state here
TEAR CARDS APART AND MAIL SEPARATELY

Watch for the Envelop, Lettered in Red and Black, Containing a Ballot Like the One Pictured Above

Make a cross in one of the two little squares on the real ballot, which reaches you by mail. And please write the name of your State in the bottom space. No signature. No stamp. Drop the preaddrest post-card ballot in the mail, and it comes back at "The Digest's" expense.

REMEMBER that the ballot is absolutely secret—no signature is required, no return stamp is needed. The ballot comes back at our expense.

Only two questions—the idea has "caught on."

"There will be no hedging," says an editorial in the New York *World-Telegram*.

"The final result will be clear cut and unequivocal.

"The repealist in the new DIGEST poll will meet the Volsteadian standpatist, and may the best man win."

Mark and mail your ballot, then watch for the returns!

And, of course, you're "listening in" to Lowell Thomas!

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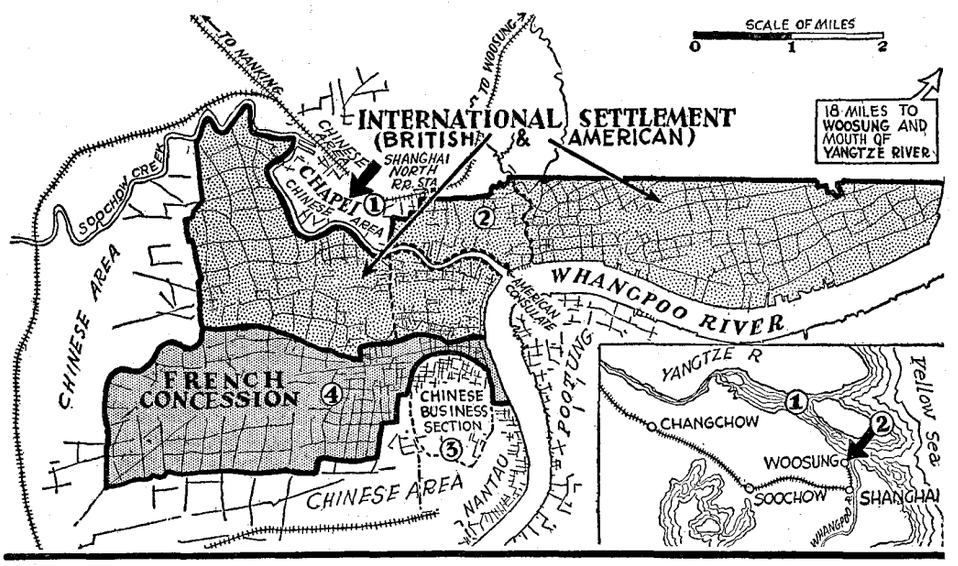
American War Alarm Over the Shanghai Explosion

"IS THE WORLD HELL-BOUND for another war?"

This high note of alarm runs through the American press, voiced by the St. Louis *Times*, as Mars alternately rages and subsides in Shanghai, spilling the blood of men, women and children, and spreading destruction with gunfire and torch, then quieting for a time, only to break out again.

When will these insane fits end? Could the United States be drawn into a war with Japan?

Nervously, fearfully, American editors discuss these questions as they view the horrifying developments of a swiftly changing situation. Even if a settlement is made, will it hold? The question is natural, for in the crazy record of this war, that is not a war, because war has not been declared, we read of a truce that was not a truce, because neither side observed it.



From the Chicago *Tribune*

Shanghai, "Powder Magazine of the World"

District No. 1 is the Chapei native section, where fighting began. No. 2 is the International Settlement, guarded by American and British troops. No. 3 is the Chinese business section. The French concession is No. 4. The map inset shows (1) where American war-ships are stationed in the river, and (2) the Woosung forts, shelled by Japanese war-ships.

Where, then, will this madness end? Shanghai, "the powder magazine of the world," might blow the United States and the other Powers into another great conflict, many editors fear. Pleas that Washington must handle the delicate situation with the utmost caution are mingled with warnings that Americans in China must be protected, and with demands that this country so build up its armament that no nation would dare challenge us.

AROUND the globe runs this same note of alarm as Great Britain, France, Italy, Germany, and the League of Nations rush in to extinguish the flames that suddenly roared up in the East.

Hope of accomplishing this took form behind the proposals made concurrently by the United States, Great Britain, France, and Italy, suggesting a truce at Shanghai and the establishment of a zone to be policed by neutrals while China and Japan sought a settlement.

The fact that Japan was quick to reject parts of the five-point suggestion did not cause the Western Powers to despair. Discussion of the proposal will be found below.

The same editions carrying this news also tell of another hot artillery duel at Shanghai, of the renewed shelling of the Woosung forts, sixteen miles away. And through the eyes of its Shanghai correspondent, Victor Keen, the New York *Herald Tribune* also gives us swift glimpses of the continuing horror, which already had cost hundreds of lives:

"Japanese bluejackets and reservists instituted a reign of terror against Chinese snipers who had penetrated throughout the Hongkew district.

"When bullets were fired upon the Japanese Consulate-General, and the Japanese club in Hongkew was attacked, hysteria broke out, and the Japanese forces and volunteers began a ruthless house-to-house man-hunt for snipers.

"Many innocent Chinese coolies were shot down when, through ignorance or terror, they failed to heed Japanese orders to halt.

"Not a few Chinese women were shot or bayoneted—seemingly needless sacrifices involved in the Japanese program against snipers.

"Due allowance must be made for the fact that the Japanese were fighting invisible foes concealed at vantage points from which they were able to shoot down bluejackets with little possibility of discovery. Yet the necessity for ruthless measures to hunt down snipers hardly excuses or explains hospital cases of Chinese women shot in the back, stabbed or bayoneted when attempting to escape from their homes not in the active firing zone.

"Many of these cases can be explained only as the result of irresponsible hysteria or merciless racial hatred."

TAKING in chronological order the chief developments of the Chinese situation as related in press dispatches from the time the Japanese marines and bombing planes first attacked the Chapei section of Shanghai, as related in our last issue:

Twenty thousand Chinese troops led by 10,000 reinforcements from Nanking counter-attack the Japanese, halting their advance.

Another Japanese cruiser and four destroyers arrive at Shanghai with 500 additional marines, bringing the total Japanese land force to 3,000.

A truce is agreed to, but almost immediately broken. Every weapon of modern warfare, except poison gas, comes into play as each side accuses the other of violating the truce.

Protests are made by American, British, and Chinese against Japanese use of the International Settlement, governed by British and Americans, as a base of operations. The Chinese threaten to attack the settlement to dislodge their foe.

In Washington, Congress ceases talk of declaring an economic boycott against Japan, since this might possibly lead to war.

Nanking issues a manifesto formally calling upon all members of the League of Nations and signatories of the Kellogg-Briand pact and Nine-Power treaty "to take immediate effective action in fulfilment of their sacred obligations undertaken under such pacts and treaties to prevent the dictates of right and humanity, the rules of international law, and the sanctity of treaties from being completely violated and destroyed by Japanese might."

The League of Nations forms a committee from among diplomats in Shanghai to report on what happened there.

In Washington, at an emergency meeting of the Cabinet, President Hoover orders the cruiser *Houston*, seven destroyers, and the transport *Chaumont*, carrying among them the Thirty-first Regiment and 500 marines, to go from Manila to Shanghai "solely to protect American lives."

The French concession at Shanghai bars Japanese intrusion and sets up machine-guns and barbed-wire to repel attack.

Great Britain sends troops and ships from Hongkong.

Chinese troops believed to number 50,000 pour into the area surrounding the International Settlement and throw up defenses.

The United States and Great Britain send "new and vigorous" protests to Tokyo in connection with incidents involving the International Settlement.

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Nanking, until recently the Chinese capital, is bombarded by Japanese destroyers. The United States destroyer *Simpson*, moving out of the line of fire, stands by to evacuate Americans.

Japanese tear down an American flag flying over a Shanghai school for boys, conducted by an American mission.

Terror again sweeps Shanghai, and thousands flee as a heavy artillery duel breaks out and shells again fall within the International Settlement. The Woosung forts are bombarded by Japanese war-ships.

Admiral Shiosawa, widely criticized for his attack on Shanghai, is replaced in command of the Japanese forces there by Admiral Nomura.

In Tokyo, the press comments temperately on Anglo-American diplomatic pressure, says a dispatch to the New York *Times*, and "refrains from anything resembling war talk."

THROUGH the American press we find condemnation of Japan for her "brutality" in Shanghai, coupled with fervent pleas to "keep us out of war." Some editors dwell upon "the folly of treaties," and call upon Congress to build up our armament.

Is there a possibility of our becoming involved in a war with Japan? Arthur Brisbane, of the Hearst press, writes:

"It is said 'this country would not tolerate another war; the big war is too close to us.' That is inaccurate. Flags would fly, drums would beat, propaganda would spread, race hatreds would be invoked, 'right or wrong, my country' would be printed in biggest type. And within a week he who, to-day, might safely protest against war would be called a traitor unless he exprest a desire to wipe out the life of every enemy Asiatic."

"Keep us out of war," implores the St. Louis *Globe-Democrat*, and the Philadelphia *Record* joins in with "We don't want war." The whole trouble, says *The Record*, is that "Japan is attempting the seizure of North China," and then:

"The American people don't give a hoot in a rain barrel who controls North China."

But "unless our government is exceedingly circumspect and tactful," says *The Globe-Democrat*, "it is likely to find itself committed to a course of action that self-interest could not justify, and that the deliberate judgment of the country could not approve"—

"The American people do not want to become involved in any war that by any honorable means can be avoided.

The Will-o'-the-Wisp
—Chicago "Daily News."

Scraps of Paper?

Japan's attention has been called to the following paragraphs of the Nine-Power Pact, the Kellogg Pact, and the Covenant of the League of Nations, all of which she signed.

THE NINE-POWER TREATY

ARTICLE I

The contracting Powers, other than China, agree:

To respect the sovereignty, the independence, and the territorial and administrative integrity of China.

To provide the fullest and most unembarrassed opportunity to China to develop and maintain for herself an effective and stable government.

THE KELLOGG TREATY

ARTICLE II

The high contracting parties agree that the settlement or solution of all disputes or conflicts of whatever nature or of whatever origin they may be, which may arise among them, shall never be sought except by pacific means.

THE LEAGUE COVENANT

ARTICLE X

The Members of the League undertake to respect and preserve as against external aggression the territorial integrity and existing political independence of all Members of the League. In case of any such aggression or in case of any threat or danger of such aggression the Council shall advise upon the means by which this obligation shall be fulfilled.

ARTICLE XVI

Should any Member of the League resort to war in disregard of its covenants under Articles 12, 13 or 15, it shall *ipso facto* be deemed to have committed an act of war against all other Members of the League, which hereby undertake immediately to subject it to the severance of all trade or financial relations, the prohibition of all intercourse between their nationals and the nationals of the covenant-breaking State, and the prevention of all financial, commercial, or personal intercourse between the nationals of the covenant-breaking State and the nationals of any other State, whether a Member of the League or not.

"They have learned, what every Government by this time should know, that war is as disastrous to victor as to vanquished. And they are keenly aware that this of all times is most unpropitious for any military hostilities.

"Moreover, whatever our feelings may be as to the merits of the controversy in China, and whatever our material interests may be in that quarter, our strongest feeling must be for our people at home, and our greatest endeavor must be for the maintenance of peace and the protection of the far larger interests we have on this side of the Pacific."

"FOR the United States to go to war with Japan to prevent the seizure of China," declares the Washington *Evening Star*, "or to compel its release if seizure were already effected, would be a monstrous injustice to the American people, a sacrifice of American lives and American treasure, for which there would be no justification."

Echoing this thought, *The Ohio State Journal* urges:

"Let the World War and its consequences be a lesson to America.

"Until Japan deliberately and maliciously encroaches upon our rights, our place is at home where President Hoover and Secretary Stimson and the Congress have kept us so faithfully."

"A conflict with Japan or any other nation," adds the Manchester *Union*, "is a prospect that ought to be avoided so long as we can do so and retain our self-respect." "To condemn Japan is perfectly justifiable," remarks the Boston *Herald*. "To carry that condemnation to the extent that it invites war is something to be avoided by all good citizens."

Altho "American temper is against being drawn into the conflict," the Memphis *Commercial Appeal* warns that "an overt act possibly could start the drums beating and the sabers rattling overnight. What a day will bring forth, no one can predict."

Many other editors agree with *The Christian Science Monitor*

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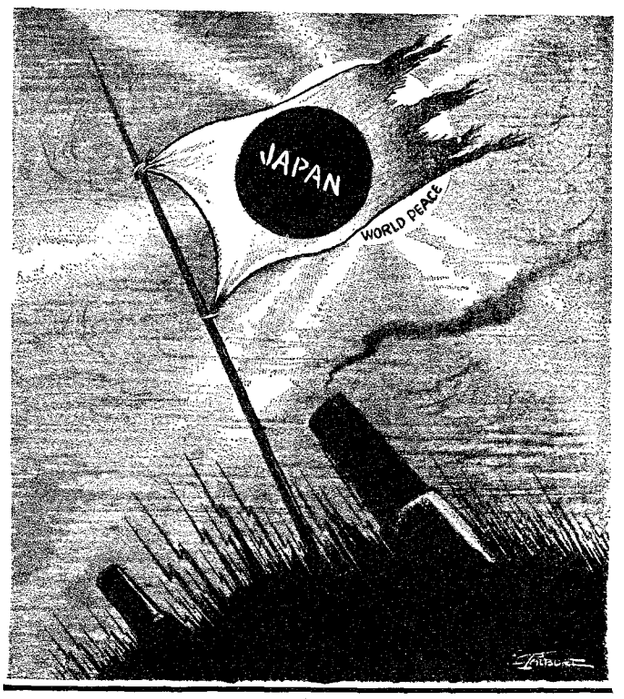
that this is, indeed, "a time to keep cool," to see to it that our "faith in the efficacy of peaceful means of adjustment is not swept away by the excitement of the moment."

TURNING now to the comment favoring the upbuilding of our armament as a guaranty of peace, the Detroit *Free Press* says that "the best we who live in the United States can do is to keep the Big Stick so obviously in working condition that soft speech will be listened to as tho it were thunder from Thor, and we will get a minimum of invitations to armed debate." With that statement many editors agree.

Among others who have no faith in the power of treaties are the Hearst papers. "Again it is made evident to the world,"



The Eclipse

—Talburt in the Washington "Daily News."

declares the Baltimore *News*, one of the Hearst chain, "that all the prating about an organized world peace is little more than folderol."

Assailing President Hoover as a "dangerous man" who "insists upon getting into complications with foreign nations and at the same time reducing our Army and Navy" *The News* declares that "Congress should take the leadership in this critical situation," and—

"The Army and Navy and air forces should be strengthened in every possible way, not only because of the present emergency, but on the broader principle of the fundamental necessity for American defense."

CONDEMNATION of Japan seems to be pretty general in the American press. She is assailed for "insane imperialism," for "a campaign of brutality."

"The only conclusion that can be drawn," asserts the Washington *Post*, "is that the Japanese government is either overpowered by a war machine that is running amuck or deliberately pursuing a war policy of unparalleled audacity, with a curious inability to justify its course by any standard of right or law."

"The land of the rising sun has been kidnaped by its military machine," thinks Heywood Broun of the New York *World-Telegram*, "and is being held for ransom."

"The bombing of residential sections, the murder of helpless men, women and children," declares the Philadelphia *Inquirer*, "puts Japan beyond the pale of civilized warfare."

"In her effort to overcome the Chinese boycott," says the Baltimore *Evening Sun*, Japan "is behaving exactly like the man who rather than face his starving family robs a grocery store, with the grocer standing by." And this paper adds that "however foolish, however dangerous, the thing is understandable."

Under the caption, "Japanese Insanity," the Washington *News*, quoted above, declares on this point:

"The Shanghai crisis can not be attributed to Japanese imperialism or anything else that connotes plan or thought.

"It is a case of plain madness.

"Certainly this Shanghai savagery can not possibly profit Japan in any way. On the contrary, it is turning the world against her. And, far from ending a Chinese boycott, it will make Chinese hatred of Japan in the future almost a religion.

"Japan has outlawed herself. That act carries its own retribution.

"No nation can live unto itself alone. Some day—maybe in a month, maybe in a year, maybe longer—Japan will come back and beg to be respected and trusted again.

"Then she will pay heavily for this madness. Then she will learn, as other nations have learned before her, that her militarists destroyed her."

TO revert to the peace suggestion made to China and Japan by the four Powers—just before the proposals were advanced, our State Department explains, China asked us to take immediate friendly measures to bring hostilities to an end. And Japan also "asked the United States to use its good offices to induce the Chinese not to bring up further reinforcements, and to withdraw the Chinese troops now in Shanghai to a safe distance to avoid clashes."

Accordingly, the following proposal, identical with those made by Great Britain, France, and Italy, was submitted to Tokyo and Nanking:

"1. Cessation of all acts of violence on both sides forthwith on the following terms.

"2. No further mobilization or preparation whatever for further hostilities between the two nations.

"3. Withdrawal of both Japanese and Chinese combatants from all points of mutual contact in the Shanghai area.

"4. Protection of the International Settlement by the establishment of neutral zones to divide the combatants; these zones to be policed by neutrals; the arrangements to be set up by the consular authorities.

"5. Upon acceptance of these conditions, prompt advances to be made in negotiations to settle all outstanding controversies between the two nations in the spirit of the Pact of Paris and the resolution of the League of Nations of December 9, without prior demand or reservation and with the aid of neutral observers or participants."

"THE proposals declared unacceptable to Japan," writes Wilfrid Fleisher in a copyrighted dispatch from Tokyo to the New York *Herald Tribune*, "are the second, calling for no further mobilization or preparation for hostilities, and the fifth point"—

"With regard to the former, officials explained that the Japanese naval forces and marines at Shanghai were insufficient, and that as long as the tension exists and there is danger of attack by the Chinese, these forces could not be removed.

"Japan, it was declared, regards Chinese pledges as worthless, and can not abandon preparations or mobilization of reinforcements. This was interpreted as referring to the reported decision of the Japanese Cabinet to send an Army division to Shanghai.

"With regard to the fifth point, officials declared, the Japanese military authorities consider that the foreign Powers would have to use force to compel Japan to negotiate settlement of all its controversies with China in the spirit of the Kellogg pact and the League of Nations resolution, without reservation. That point was 'utterly unacceptable,' it was stated."

Japan's official and press defense of her action at Shanghai will be found on page 13 of this issue.

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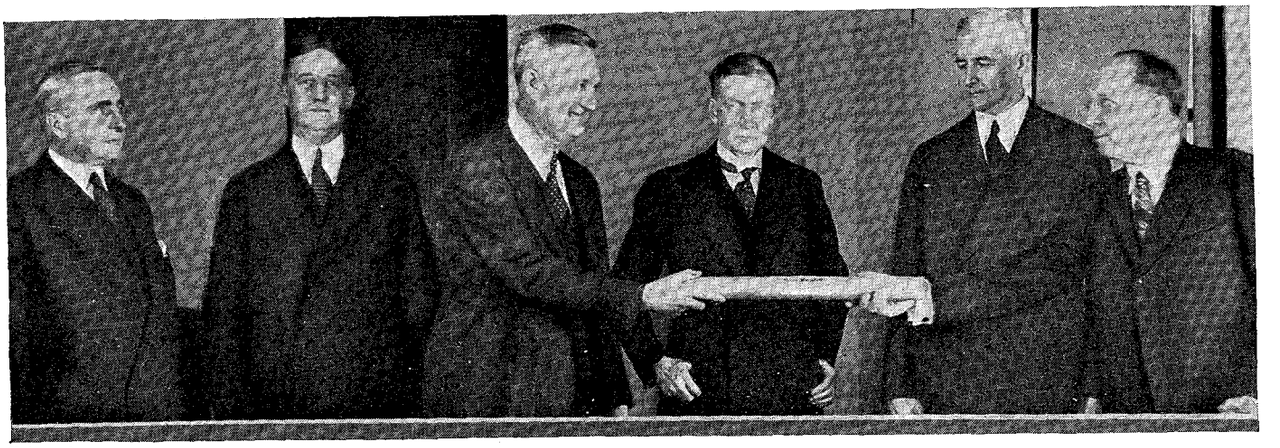

Underwood

The General Staff of the R. F. C. Meet to Plan the Attack on Depression

Here are the Directors receiving their commissions. From the reader's left to right they are Ogden Mills, who succeeds Andrew W. Mellon as Secretary of the Treasury, following Mr. Mellon's appointment to be Ambassador to Great Britain; Paul Bestor, Federal Farm Loan Commissioner; Harvey C. Couch, of Arkansas; Charles G. Dawes, President of the Corporation; Jesse Jones, of Texas; and Eugene Meyer, Governor of the Federal Reserve Board, and Chairman of the Board. The seventh member, whose nomination had not been confirmed when the picture was taken, is Wilson McCarthy, of Salt Lake City.

The R. F. C. to the Rescue

IN THE VIGOROUS COUNTER-OFFENSIVE launched against the forces of depression, the spearhead of the economic A. E. F. is the R. F. C.

R. F. C., of course, is Reconstruction Finance Corporation, and the newspapers have fallen into the war-time habit of using the simple initials instead of the rather cumbersome full name of this anti-hard-times organization.

"In the third year of the Great War between Depression and Prosperity," the forces of the latter have decided to stop passive resistance and launch a great counter-attack. So writes Theodore M. Knappen in *The Magazine of Wall Street*. This is the way he sees the attack beginning all along the line:

"1. The newly created Reconstruction Finance Corporation will advance against the forces that have broken down credit, with all strength of two billion mobile dollars—reinforcements for the banks, railways, exporters, insurance companies, building and loan associations, agricultural corporations—incidental relief of pressure on every other sector of the front.

"2. Another governmental corporation is to lead a sally to rescue some two billions of dollars which, like prisoners of war, are held by depression in the thousands of closed banks.

"3. A national system of home loan banks is to attack the credit paralysis which has imperiled the homes of millions and prostrated the building industry.

"4. Weakened agriculture is to be particularly reinforced with reserves of 125 million of new capital for the Farm Loan Banks of all descriptions in addition to the help they may get from the Reconstruction Finance Corporation. Objective: More farm loans, no more foreclosures of worthy borrowers.

"5. Broadening of the rediscount field of the Federal Reserve Banks, so as to bring into credit action prosperity assets that are not now mobile.

"6. Special legislation designed to strengthen the railways."

"THE country is confidently looking forward to these legislative stimuli as the turning-point toward better times," says the Washington *Post*. The R. F. C. in particular "has critics but no enemies," declares the Philadelphia *Record:*

"It has two billion dollars' worth of ammunition. The people are waiting to see how straight it can shoot."

Turning from a military figure to a more domestic one, the Schenectady *Union-Star* calls the formation of the R. F. C. "priming the pump to get business started." Coming still closer to the household vernacular, the Indianapolis *Star* expects the R. F. C.'s $2,000,000,000 to be "the little leaven that will leaven the whole lump of the American business." North, South, East and West, in Wall Street as on the Pacific coast, our newspapers expect great things from this R. F. C.

The severest critics of the R. F. C. seem to be in the Far West. The Sacramento *Bee* attacks this "dole for capital." It asserts that the actual mission of the R. F. C. is to give the key of the nation's treasury to the big bankers and tell them to help themselves. The R. F. C. was "conceived by big financial interests and rammed down the nation's throat by the politicians," declares the no less critical Denver *Post*, which continues:

"It will have two billion dollars of the people's money to lend to unsuccessful railroads, banks, and other corporation cripples.

"No nation can borrow itself into prosperity. Neither individuals nor corporations can borrow themselves out of debt. The railroads, by obtaining loans from the Reconstruction Corporation, may temporarily avoid receiverships, but they only make their financial position more untenable because they increase their indebtedness.

"One trouble with the railroads now is they are bonded and watered to death. They are like a bloated steer and everybody is afraid to puncture their inflated skins and let out the gas which is killing them. Making it easy for them to borrow more hundreds of millions will only increase their inflation and make all the worse the crash that will come when they are deflated. They can't go on forever, borrowing to pay their debts and bond interest."

BUT all this cry of inflation is stoutly combated in the daily press. The R. F. C. will "not inflate credit, but will merely release credit now frozen," declares the Chicago *Daily News*, summing up assurances from Administration spokesmen. We are repeatedly told that the move is not inflationary but anti-deflationary. David Lawrence explains in the Washington *Star:*

"Actually no new currency will be issued, as would be the case if an inflationary policy were adopted.

"Instead, bonds and debentures will be sold and paid for by the American people with cash derived from the sale of their own assets or from savings.

"These debentures will have back of them not only the collateral of the original borrower, but the indorsement of a bank or investment house and then the assets of the Reconstruction Corporation and finally the United States Treasury itself."

Whether we call it inflation or anti-deflation "is mere verbiage," writes Walter Lippmann in the New York *Herald Tribune;* it is simply "a policy designed to justify the expansion of credit to solvent producers, and has nothing whatever to do with inflation by the printing press."

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The Rail Man Does His Bit--$210,000,000 Worth

THEY CLIPT A DOLLAR AND EIGHT CENTS off Steve's pay check at the big rail-wage conference in Chicago the other day.

And now Steve's wife has to scrimp more than ever to make their weekly income of $9.72 go as far as their $10.80 used to go. That dollar eight makes a big difference.

But Steve is lucky at that, you might say, for many of his co-workers, also on part time, have been earning only $3.84 a week—reduced to $3.45 now by wage agreement—and thousands of others have no job at all. Five hundred thousand of the 1,500,000 railroad men who accepted the 10 per cent. cut were earning $25 a week, or less, according to their leaders, while 200,000 were earning less than $20 a week.

A Good Horseman Knows When to Rest His Mount

—Evans in the Columbus "Dispatch."

But the effect of the cut which these million and a half men of twenty rail unions have accepted for a year is reflected in an enormous total—$210,000,000. From this sacrifice on the part of the nation's rail workers great results are expected by many observers. It may be, they say, the final knockout for the depression.

THROUGHOUT the press Steve is being hailed as somewhat of a hero. While he knuckles down to the job of making ends meet on his reduced pay, he may find cheer in some of the thumping editorials which slap him on the back and call him a patriot.

Steve's economic fate for the next year was decided at a huge, linen-draped table under the crystal chandeliers of a big room in Chicago's Palmer House. There, on January 31, two groups of men brought to an end negotiations which had held the nation in a tension. They were the Railroad Presidents' Committee of Nine, headed by Daniel Willard of the Baltimore and Ohio, and, on the other side, Steve's leaders—the chiefs of the twenty rail unions, headed by David B. Robertson, president of the Railway Labor Executives' Association.

Steve's champions, it seems, entered the final series of conferences pretty well reconciled to the idea that their men must suffer a wage-cut—for the good of the country. But they hoped to win consideration for him and his co-workers in the matter of safeguarding and bettering his job, and rehiring some of those laid off.

To the presidents' argument that many rail companies are failing to earn fixt charges for investors and are facing bankruptcy, Mr. Robertson made a dramatic answer. The rail employee, he said, also has fixt charges—subsistence for himself and his family. Steve and half a million others are not earning anywhere near their fixt charges. As for those who have invested their money in railroads, these 1,500,000 workers have "invested their lives."

In the end, in return for the 10 per cent. wage-reduction—or "deduction" as the unions prefer to call it—the 210 roads involved agree to withdraw their notice of intention to ask for a 15 per cent. slash under the Railway Labor Act, and also promise to try to "maintain and increase railroad employment."

"No conference," declared Mr. Willard as the session ended on a note of cordiality, "could have been conducted on a higher plane." Then he added a statement which is echoed by dozens of editors: "The successful termination of this conference will mark a distinct epoch in the matter of labor relations."

PRAISING the union chiefs for their "cooperation, patience, tactfulness, and patriotism," Mr. Willard pointed out that "you might have delayed this agreement for months and forced us to take a long and tedious course which would have left bitterness where now there is friendship and harmony."

"We can not believe," said the union statement, "that the public welfare is advanced by reducing the purchasing power of labor," but it is their hope that—

"Our action may improve the health of our industry, may improve the cooperative relations of management and employees, may stimulate a revival of business."

Many papers heartily indorse Mr. Willard's further statement that "this is the greatest step toward the reconstruction of American business and industry which has been taken since the beginning of the depression."

But before tuning in on the enthusiastic chorus, it may be well to note that some editors agree with the New York *Journal of Commerce* that—

"No spectacular results either on railroad earnings or railroad buying power can be expected to follow the 10 per cent. wage-cut under prevailing conditions."

NOW for the enthusiasts.

They fairly shovel praise upon Mr. Willard and Mr. Robertson and their respective sides, and view the agreement as a harbinger of good times.

"The agreement ought soon to result in an expansion of employment and a widening of the buying power," is the typical statement of the Philadelphia *Inquirer*. "The unions have given the country a heroic example whose lesson of cooperation might well be studied." It is "a landmark in the history of organized labor," adds the Washington *Post*.

The effect upon the economic situation "should prove stimulating in the highest degree," declares the New York *Herald Tribune*, and then proceeds with this analysis:

"Reminders that the railroads of the country are among the foundation-stones of its commercial and financial structure need no repetition.

"Their solvency now seems assured by a voluntary wage-cut of 10 per cent. and a consequent saving estimated at $210,000,000.

"Add to this the $100,000,000 which the carriers hope to realize from the selective rate increases permitted by the Interstate Commerce Commission (to be pooled for the benefit of the weaker roads) and the credit support promised in the establishment of the Reconstruction Finance Corporation, and all fear that this fundamental industry would drag the rest of the business fabric to its doom should vanish from the American consciousness."

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Britain's Submarine Horror

THEY HAD AIR ENOUGH FOR forty-eight hours—could rescuers reach them in time?

Sixty of them were trapt in the steel hull of the British submarine *M-2*, lying helpless on the floor of the English Channel, more than a hundred feet below the surface.

Desperately—hopelessly—the search was pushed. Destroyers, mine-sweepers, submarine depot ships, and salvage craft fought against fog and tide and time to locate the sunken submarine, in the hope of dragging it to the surface.

And while they labored, the world anxiously watched their futile quest, watched with relatives of the imprisoned men, and suffered from the terrible irony of the fact that the searchers could find only the old wrecks of long-lost ships.

In one day of frantic scouring of "Dead Man's Bay," eleven of these wrecks were found off Portland Bill, the Associated Press tells us, and then relates another ironic development:

"Ideal diving weather came just at the expiration of the time limit in which the men of the *M-2* might have been found alive."

"Blank despair fell upon the wives and mothers of the men lost with the *M-2* as the hours passed when the experts figured that the air inside the sunken hull would be exhausted," writes the London correspondent of the New York *Times*, describing the pathetic vigil kept by relatives on shore:

"Since dawn the little group of women had been standing on one of the piers, ignoring the bitter wind, peering into the fog which hid the salvaged vessels. One of them had a wrist-watch which she glanced at from time to time. At 10:30, the forty-eighth hour, she nodded to one of the other women. After that they looked at one another but seldom. The one with the watch gathered her two children to her almost fiercely, squared her shoulders, and gazed out again toward the sea."

NOTHING was heard from the *M-2* from the time she disappeared, while engaged in exercises with other submarines on January 26, we read. The craft was equipped with artificial "lungs" to permit the crew to escape. The fact that no signal was received from her sounding apparatus supported the theory that all on board were drowned as the craft sank.

The irony of the tragedy was accentuated when the *M-2* was found, eight days later, alongside a German U-boat sunk during the war, and not far from two wrecks found early in the search. Rescue ships had actually cruised above the spot a few hours after the disaster.

The *M-2* began her career in 1920 as the *K-19*, and was renamed the *M-2* when she became Great Britain's first undersea aircraft carrier, says the United Press—

"The K class submarines have had an 'unlucky' history. The *K-1*, *K-4*, and *K-17* were sunk in wartime collisions, and the *K-13* sank in an accident with a heavy loss of life. The *K-5* sank in the Channel, in 1921, with a loss of fifty-seven men. All of the class were scrapped in 1925.

"The *M-1* went down with a loss of sixty-nine lives. The only other submarine of the M class is the *M-3*."

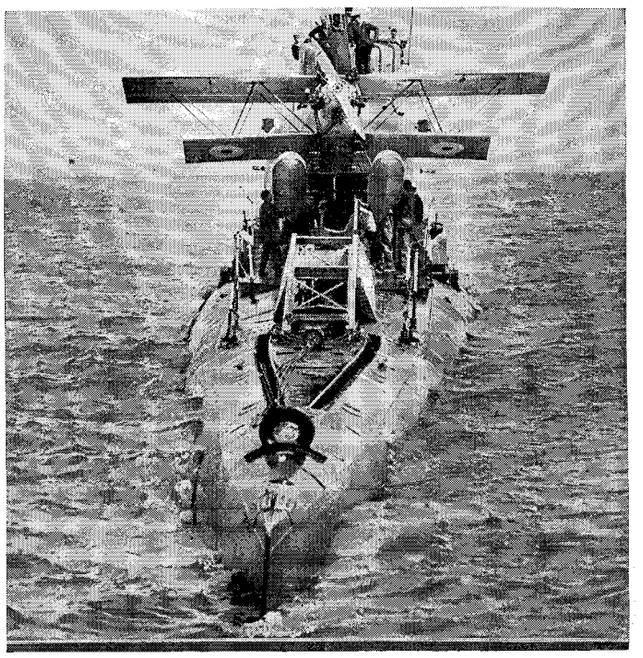
Describing the Davis escape apparatus with which the *M-2* was equipped, Jack Foster, writing in the New York *World-Telegram*, tells us that it is similar to the Momsen "lung" used on American submarines—

"The apparatus is composed of a nose-clip, mouthpiece, tube, and oxygen bag. It contains enough oxygen so that the victim, after he has slipt out of the submarine, may breathe as he rises to the surface, where he turns a check-valve, changing the apparatus into a life-belt.

"Last summer when the British submarine *Poseidon* sank in the Yellow Sea, six men escaped from the sunken craft by using the Davis apparatus. Two, however, died from injuries received in the escape."

American observers, recalling our own disasters of the same kind, raise again the question of abandoning the submarine, and suggest that the Geneva Disarmament Conference might well consider it.

"Subs still are tombs," says the New Haven *Register*, pointing out that "no available precaution had been neglected" to safeguard the *M-2*. "Solely useful as a weapon," says the Philadelphia *Record*, "the submarine renders no peacetime service that other craft can't perform more satisfactorily"—



Wide World photograph

Shall These Death Traps Be Abolished?

The loss, with sixty men on board, of this British submarine aircraft carrier, the "M-2," is the fourteenth submarine disaster in ten years, and revives the agitation to ban this type of war-craft.

"The disarmament conference would command much civilian support if it indorsed the proposition that the world would be better off without submarines."

THIRTEEN submarine disasters in the last ten years have cost the lives of 547 men, according to a list compiled by the New York *World-Telegram* from the records of *The World Almanac*, and the loss of the *M-2* sends the total to 607:

"March 23, 1922—British ship, collision, Gibraltar, twenty-three lives.

"August 21, 1923—Japanese, unnamed, Kobe dock, eighty-five lives.

"January 10, 1924—British *L-24*, collision off Portland, England, forty-eight lives.

"March 19, 1924—Japanese *43*, collision off Sasebo, forty-nine lives.

"August 26, 1925—Italian, off Sicily, fifty lives.

"September 25, 1925—U. S. S. *S-51*, collision, *City of Rome*, off Block Island, thirty-three lives.

"November 11, 1925—British *M-1*, collision in Channel, sixty-nine lives.

"December 17, 1927—U. S. S. *S-4*, collision, Provincetown Harbor, with Coast Guard Destroyer *Paulding*, forty lives.

"August 6, 1928—Italian *F-14*, collision, Adriatic Sea, thirty-one lives.

"October 3, 1928—French *Ondine*, collision off Portugal, forty-three lives.

"July 9, 1929—British *H-47*, collision, twenty-one lives.

"May 22, 1931—Russian *9*, Gulf of Finland, thirty-five lives.

"June 9, 1931—British *Poseidon*, collision off Shantung Province, China, twenty lives."

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TOPICS IN BRIEF

ANYBODY that isn't broke has been getting the breaks.—*Arizona Producer.*

THE nearer we approach the horseless age, the greater is our horse-power.—*Christian Science Monitor.*

NOT a few families would like to be out of the depression before they're out of everything else.—*Weston (Ore.) Leader.*

THE Democrats have one good idea. They hold their "victory dinners" before the election instead of after it.—*Judge.*

ANOTHER thing this world needs is a form of prohibition that will stop money from getting tight.—*Jacksonville Journal.*

A FLORIDA paper says that the chances of a paragraph "making" THE LITERARY DIGEST is one in 21,000,000. Well, here goes another chance.—*Thomaston (Ga.) Times.*

CHICAGO bootleggers must be finding business rather tough when they have to go out and grab both conventions.—*Miami News.*

AND looking back at 1931, it seems that the only institutions giving our taxpayers a run for their money were the banks. — *Judge.*

AS we understand it, our former allies would just as soon receive their reparations from Uncle Sam as from Germany.—*Florence (Ala.) Herald.*

HAVING taken Manchuria away from China, Japan is now hammering away at Shanghai to demand that China cease resenting it. — *Wichita Eagle.*

DESPITE the propaganda, writes a London editor, England will never bow to the Russian system. Ah, yes. Britons never shall be Slavs. —*Boston Herald.*

IT is reported that the depression has not seriously affected American educational institutions. Except, of course, the stock market.—*San Diego Union.*

THE dreadful sounds we sometimes hear over the radio are caused by sun-spots, an astronomer believes. I heard one sun-spot last night that was a soprano, and one that was a tenor.—*Detroit News.*

IT may be just envy, but it always seems to us that the people who get tax refunds from Washington don't need them.—*Honolulu Star-Bulletin.*

"WOMEN," says a writer, "spend too much on clothes, and men too little." Another distressing case of cause and effect.—*The Humorist (London).*

HOWEVER, if a Democrat is elected President, in November, he can soon fix up that Treasury deficit by making one of those practical Tammany boys Secretary of the Treasury.—*Judge.*

A CALIFORNIA detective is helping to investigate those bomb explosions at Easton, Pennsylvania. No doubt he'll find that Tom Mooney is the guilty party.—*Dunbar's Weekly (Phœnix).*

TIMES may be hard for poets, as that meeting of authors in New York seemed to indicate, but they'll probably pull through all right. At any rate, they've got lots of lines out.—*Boston Herald.*

A HARVARD astronomer believes Mars is almost certainly inhabited by intelligent beings, and that they are signaling to us. They probably are going to try to sell us some of their bonds. Just let on as if you didn't notice them.—*Detroit News.*

THE best depression joke will be the last.—*Weston Leader.*

THOSE who are trailing 'em are authority for the fact that a dollar goes farther nowadays.—*Arkansas Gazette.*

IT seems that Europe can't give the United States anything but love, so it won't give anything.—*Ohio State Journal.*

THESE credit pools would sound a heap better to us if we hadn't already dived in over our head.—*Dallas Morning News.*

SALES taxes, we read, are coming. So it won't be long before every part of the citizen will be taxed except his squeal.—*Judge.*

SOVIET chemists filter soapy water, to save the soap. Many small boys could show them a much easier way than that.—*Christian Science Monitor.*

Spoiling the Picture for Us

—Costello in the Albany "Evening News."

ANYWAY, if we take all these optimistic predictions with a grain of salt, it will help the salt business. —*Jacksonville Journal.*

WOMEN will have all the national wealth by the year 2035, says a banker. They must be saving their alimony. — *Toledo Blade.*

AS yet none of the peace-makers in the Democratic party has been bold enough to suggest a 1932 ticket of Smith and Cannon. — *Miami News.*

IN the interest of the strict economy to which Tammany now pledges itself in running New York, maybe the boys will take to using cardboard instead of tin boxes.—*Boston Herald.*

SOVIET RUSSIA expects to embark upon a new Five Year Plan as soon as the present one is completed. Meanwhile, it will complete this one if it takes a century.—*Detroit News.*

THEY tell us that adapting ourselves to the depression is merely doing without what our grandparents never had. Well, one of the things they never had was a depression like this one.—*Judge.*

WHAT puzzles us is the psychological side of New York City politics. It seems so strange that a man who can't remember where he got $150,000 never forgets where he put it.—*Boston Herald.*

THE conventions will be held in Chicago, a city that knows how to choose leaders by elimination.—*Publishers Syndicate.*

WORLD diplomats seeking a plan to prevent fighting might be able to get some good ideas from Max Schmeling's manager. —*Cedar Rapids Gazette.*

A NOTED financial expert says the people of this country will not tamper with the gold dollar. On the principle, no doubt, that you can hit 'em if you can't see 'em.—*San Diego Union.*

THE scientists now announce that the world will last a trillion years instead of fifteen billion as previously estimated. There's plenty of cheering news in the papers if you only look for it. —*Judge.*

FOR its world's fair next year Chicago is going to erect a replica of Hamlet's castle at Elsinore. The scheme is warmly backed by the unpaid school teachers, who hope the ghost will walk there.—*Detroit News.*

HEAVEN help THE LITERARY DIGEST if its Presidential poll fails to show Hoover the 1932 winner, because if it doesn't, Herbie will have a new commission on the job to see just what's wrong with THE LIT. DIG.—*Citrus County Chronicle (Inverness, Fla.).*

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FOREIGN COMMENT

Japan Protests Her Innocence

CHINA IS THE AGGRESSOR.

China is to blame for the bombardment of Shanghai and the killing of Chinese men, women, and children.

The Western Powers that aim to intervene between China and Japan are also to blame for acting "on false information regarding the real nature of conditions in Shanghai."

What is more, these Powers lose more than they gain by protesting against Japan's activities in Shanghai.

Such is the argument and tone of Japanese newspaper and official responses to critical clamor against Japan.

The intervention of the Powers is "unjust," cries the Tokyo *Hochi* in an editorial cabled to THE LITERARY DIGEST. The Anglo-American notes in which the French are associated are "based on false information," and it adds:

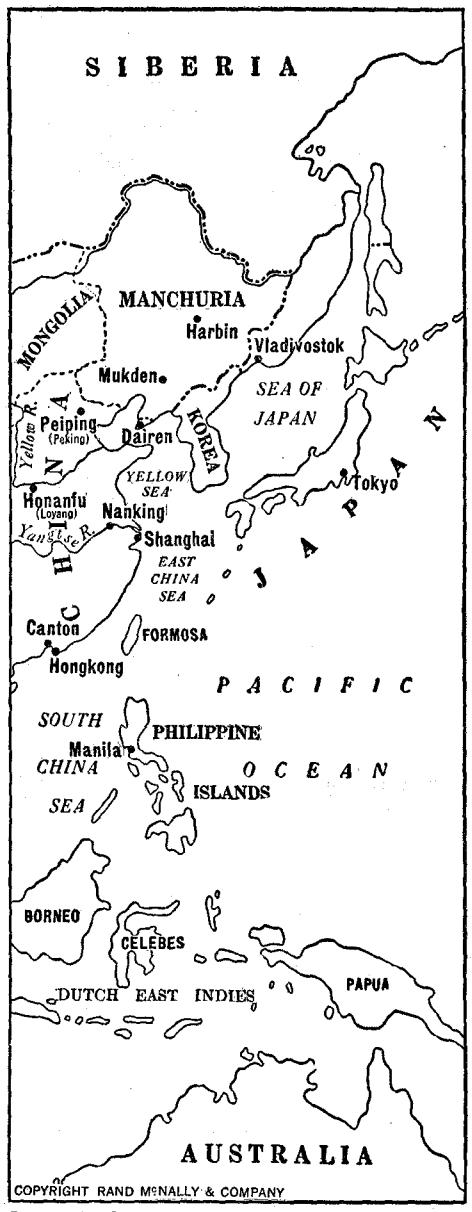
"The incident hardly deserves Japan's attention at this juncture. We can only regret the Powers' unfriendly and thoughtless attitude regarding a matter in which Japan finds her very national existence at stake.

"To consider Japan's operations as intended from the outset to injure the Powers' interests overlooks the exigency of the situation under which the Japanese marines had to operate and the plan of international joint defense previously arranged."

The *Hochi* goes on to recall the Shameen incident of 1925 when the British bombarded Canton, "endangering Japanese interests, but against which Japan did not protest." Finally, this newspaper asserts: "China's anti-Japanism caused the Shanghai incident. Therefore China is to blame."

Among other editorials cabled to THE LITERARY DIGEST is that of the Tokyo *Asahi*, which avers that the Powers stand to lose more than they can gain by their present course, and it adds:

"The fact should be remembered that China's bad faith brought about the situation. . . . Japan is certainly prepared to take every precaution and to assume responsibility for possible losses and danger to the interests of the Powers and of the residents of the International Settlement."



Drawn for THE LITERARY DIGEST

Where East Alarms West

From Siberia in the north to the upper rim of the Australian Continent in the south, Russians, British, French, Italians, Americans, and Dutch watch the Japanese-Chinese conflict around Shanghai with anxious eyes.

ALSO, the *Asahi* expresses the hope that Foreign Minister Yoshizawa, "in concert with the United States, British, and French Ambassadors, will continue efforts for a satisfactory solution."

Says the Tokyo *Nichi-Nichi:*

"The urgent problem is not how the Shanghai incident was created, but how to protect Japanese residents who are in danger of annihilation. The Settlement police obviously are helpless in the face of the huge forces of the Chinese.

"This fact was eloquently attested by the actions of the Powers in reinforcing their troops in Shanghai. Japan must protect Japanese residents, regardless of the Powers' attitude, until their safety is secured by some reliable Chinese Government.

"Japan must emphasize to Anglo-Americans that the Chinese, not the Japanese, are responsible for the present grievous situation in Shanghai."

AN illuminating revelation of Japan's defensive line of argument appears in a world copyrighted statement of Premier Inukai of Japan, cabled to the United Press. First of all, the seventy-seven-year-old Premier points out that Manchuria is nearly 1,000 miles from Shanghai, and the Shanghai incident is "an affair entirely separate from the Manchurian incident." Then he says:

"Both occurrences were due to a similar cause, namely, violent Chinese military attacks. In the Shanghai case, an arrangement had been made in consultation by the international authorities in view of the disturbed conditions of the city for its defense by international forces, and in accordance with this scheme a particular sector was allotted to the Japanese.

"The Japanese Navy proceeded to carry out this international duty by landing a force of marines. These men immediately were subjected to a galling fire by Chinese troops.

"In the execution of their international duty, the Japanese returned the fire. It is believed that soldiers of no other country would or could have done otherwise. Certainly, American troops would not have been deterred by Chinese bullets from the execution of their appointed and accepted duty.

"The Chinese forces which attacked them being in great strength and proceeding to attack and destroy the Japanese residential quarter of Shanghai with its 30,000 Japanese inhabitants, the only possible mode of warding them off was the employment by our Navy of aircraft and artillery.

"It is entirely untrue to say that any bombs were dropt on the Chinese city of Shanghai or on the International Settlement. The whole counter-attack was directed exclusively against the attacking Chinese Army."

PREMIER INUKAI goes on to inform us that the tension between the Japanese and the Chinese in Shanghai in the presence of overwhelming Chinese forces outside the city "sadly resulted in a crescendo of riots and atrocities, and Japanese went about in terror of their lives."

Strict instructions were from the first issued to the Japanese authorities, civil, naval and military, to limit to a minimum the necessary measures of self-defense, Premier Inukai assures us, and to cooperate with the consular and naval authorities of the other Powers in all possible ways for the protection of important interests of foreign residents in Shanghai. We read then:

"So that, if all parties interested refrain from panic there is every prospect of the conflict's being localized and brought to a prompt termination.

"I am glad to have this opportunity of making known the

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essential and undeniable facts. The whole problem presents enormous difficulties which demand for their solution forbearance and fairness through the comprehension of the basic details by all concerned.

"The boycott continues universal throughout China, enforced by terrorists and exercised by the party in control with the countenance and tacit encouragement of the Government.

"It can not be called a spontaneous, popular movement, and Japan feels it is contrary to her treaty on commerce which stipulates for freedom of trade; and contrary also to peaceful friendly relations. It is driving thousands of Japanese out of business and out of China.

"Japan infinitely deplores these occurrences which have been forced on her by Chinese militarism and military violence. She already has lost precious lives in Shanghai and Manchuria.

"I am sure a candid examination of the facts will convince any one that in the Shanghai case her forces could not have acted otherwise than they did with due regard to their international duty.

"Appreciating sincerely the American devotion to the cause of peace, I am certain the American and European publics, with their well-known sense of fairness, will recognize that peace has not been endangered by the acts of Japan but by the inconsiderate precipitancy of the armies of China."

CABLES to THE LITERARY DIGEST from Shanghai advise us meanwhile that Chinese-language newspapers there seem reluctant to comment editorially on conditions, because "they have been intimidated by fear of Japanese military action." But the Shanghai *China Press*, we see plainly in a cable, is outspoken:

An Italian Plea

Peace (to Japan and China): "Mars is a very light sleeper. Be careful you don't waken him."

—"Il '420'" (Florence).

"Since the days of Grotius no single nation has violated so many established principles to regulate international relationships as Japan has done in the past four months.

"While Japan is trespassing on Chinese territory and interfering with China's independence, she's daily establishing new principles of international law.

"Unfortified cities can be bombarded with impunity, innocent Chinese can be slaughtered mercilessly by armed Japanese, and Chinese institutions of culture can be deliberately destroyed.

"The world some day will awaken to find that the whole system of international law has been destroyed by Japan.

"The more the Japanese assure the public that specific things will not happen, the more assured the public can be that they will happen."

THE American-owned Shanghai *Evening Post and Mercury*, which has been vigorously critical of Japan since the beginning of the Shanghai crisis, declares in an editorial cabled to THE LITERARY DIGEST that:

"It is time Japan faced facts and international responsibilities after a four and one-half months' militaristic spree. There has been enough diplomatic falsifying and splitting of hairs.

"The Japanese armed force has dragged Japan into a wholly untenable position vis-à-vis China and has jeopardized the safety and rights of all Powers concerned. That's the fundamental fact of the present case. All the Japanese explanations in the world can not alter it."

Perturbations of an ominous nature have been started in Russia by the continued progress of Japan's campaign begun September 18, last, in Manchuria. Moscow cables to THE LITERARY DIGEST reveal the *Industrial Gazette* of that city as expressing the grave concern in Moscow which is growing over Japan's activities in and near Harbin. We read:

"The actual seizure of Harbin, the administrative center of the Chinese Eastern Railway, will be greeted with satisfaction by war incendiaries throughout the world. The open friendship between leaders of the White Guards and the direction of the Japanese occupation demand our strained vigilance. . . .

"Bending over his lathe, the Soviet proletarian sees a picture of the Far Eastern frontiers and does not forget the weapon which is necessary to protect the fruits of his labor."

FROM a broad Communist survey as taken by the *Communist Youth Pravda* of Moscow, it appears that:

"The outlines of the second cycle of the imperialist wars are seen clearer and brighter in the glow of the fire in the Far East. The Pacific, especially the Far Eastern section, long has been a knot of imperialist contradictions.

"The first phase of the new war is actually under way; at the same time a strategic plan for world imperialism is being developed, aiming to disperse colonial hotbeds of revolution, make a general attack against the working class and prepare a united front against the Soviets.

"The conflict over the Chinese Eastern Railway in 1929 was a rehearsal for war against us. American imperialism is feverishly pushing Japan toward a conflict with the Soviet Union."

The "Cleverest Politician" in Europe

NO two guesses are needed to fit Mr. Briand to an English editor's definition of the "cleverest, the subtlest, and the supplest politician" on the Continent. On the platform of the League at Geneva, we are reminded, he can bring tears into the eyes of Europe's assembled war ministers and military dictators by his amazing oratory. But "Critic" laments in the London *New Statesman and Nation*, he has become "the slave of his own political virtuosity and jugglery." We read then:

"The shedding of Mr. Briand from the new Laval Cabinet is not without significance. The Laval Government was of the kind which the French and all group Parliamentary systems tend to breed, a Government precariously poised between a Left and a Right. Mr. Laval has now wabbled, not perhaps with great enthusiasm, to the Right, and in the process has shed Mr. Briand.

"I imagine that Mr. Briand is, in some ways, not sorry to be out of Mr. Laval's galley.

"He remains a force in French politics which no President du Conseil can afford to overlook. The hatred of the Right for him from the days of Daudet's vendetta to the present moment shows clearly how stedfastly he has stood for the Left and, since the war, for peace.

"I sometimes wonder why a man of his genuine humanity and incomparable political gifts has achieved so little in leading French policy in what I, and I believe he himself, regard as the only sane direction. Perhaps the reason is that he has been too long in politics and is too characteristically a Frenchman to be anything at bottom but a French politician. If you look at the smile which hovers about the corners of his extraordinary mouth, you will remark that no man could smile like that who had left himself with the inconvenience or consolation of a single illusion. But I doubt whether any statesman can really accomplish much in times of stress unless he retains a few of those illusions which some people call principles."

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The Mailed Fist in India

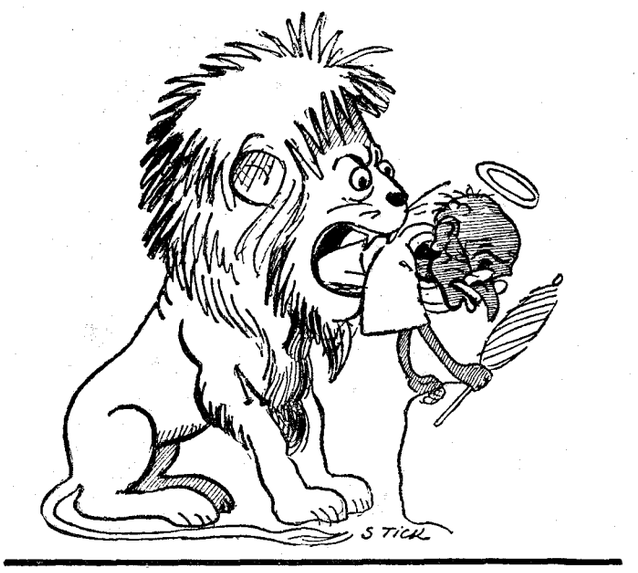
THE NEW OUTBREAK of civil disobedience in India was met by such a firm and swift curb by Viceroy Earl Willingdon, that British editors in that country feel relief and satisfaction.

Gandhi and his chief lieutenants have been thrown into jail, and rioters are being handled without mercy by the police.

But Indian editors lament that the Viceroy precipitated a crisis, which, they claim, through tact on his part, might have been avoided. They are convinced that the sooner the British Government in India returns to the high road of conciliation, the better for the Government and for the Indians.

Midway between extreme views stand Moderate Indians, who aver that it is not only the Viceroy who has blundered, and they are counseling Mahatma Gandhi, even at this late day, to abandon some of the policies that have brought him into conflict with the British.

Among the Moderate journals is *The Leader* (Allahabad), edited by C. Y. Chintamani, a native of the Madras Presidency, who, at one time, was the chief minister in the United Provinces Government, and was also a nominee of Lord Irwin at the Indian Round Table Conference in London. He thinks that the Mahatma has blundered in sanctioning the boycott of foreign—which, in reality, is likely to mean British—goods. He observes:



French Pleasantry

The British Lion: "I could swallow Gandhi all right, but he's too tough to digest." —"Le Petit Provencal" (Marseilles).

"Business men have been hit so hard by the prolonged and unprecedented slump that they are bound to resent activities which may mean ruin to many of them.

"The situation has enormously changed since the time when the boycott was started in 1930, and we are afraid that if Congressmen do not make a note of it, but start picketing, it may not only lead to violence but may also drive the mercantile community into the arms of Government. This will certainly weaken the position of the Congress. They have already alienated the sympathies of the Zemindars. Will they like to have ranged against them a pretty large section of business men also?"

BUT there are Moderate Indians, also, who think that the Viceroy has made a mistake in penning up Mahatma Gandhi and his principal, and even many of his subsidiary, lieutenants. One such is Mr. K. Natarajan, who is known for his sane, cautiously written editorials in his *Indian Social Reformer* (Bombay). He declares:

"No one who reads the Gandhi-Willingdon correspondence with an open mind, can fail to be struck by two things.

"The first is the tone of the Viceroy's reply to Mahatmaji's polite inquiry, and the second is His Excellency's apparent anxiety to force Gandhiji into a public surrender. . . .

"We can readily understand the bureaucracy . . . yearning to tell Gandhiji: 'You may be a great man outside India, and in India among your people. But we are your masters and can clap you by a stroke of the pen inside a jail.'

"But we hardly thought an English Viceroy could be capable of entertaining or expressing such a sentiment, notwithstanding his long sojourn in this country as Governor of two presidencies (provinces). The Viceroy's tone and his peremptory refusal to discuss the Ordinances with Mahatma Gandhi have deeply hurt the Indian public. His Excellency, we are sorry to say, has undone the good work of his predecessor and raised a wall of distrust between Government and the people."

Brighter News of Britain's Jobless

THE DARK SIDE of Britain's unemployment problem is familiar and not to be forgotten, but the English now claim that the picture must not be painted blacker than it really is.

Between the "standing army" of the unemployed and the 3,000,000 in constant employment, we are told, there remain about 7,250,000 men and women "among whom employment and unemployment are intermittent." But for half of this number, unemployment is not a serious matter, remarks the London *Times*, and it claims that in fact it becomes serious for only about 10 per cent. This London daily is considering the report of the unemployment record of the 12,000,000 insured workers in Great Britain, which the Ministry of Labor made for the guidance of the Royal Commission on Unemployment Insurance, and it advises us:

"The inquiry was carried as far as the end of 1930, and it therefore covered the earlier phases of the acute depression, which is still with us. More unemployment was not accompanied by any essential change in the character of the unemployment.

"It is again shown, as earlier inquiries had made known, that the 'standing army' of unemployed is small. In this report its maximum size is confidently put at 100,000 men and 3,000 women.

"Whether the members of this standing army are fit subjects for unemployment insurance is one of the matters on which the Commission will no doubt make a recommendation. The purpose of the report is simply to reveal the facts with statistical impartiality; and the first striking fact is the contrast between this 'standing army' of a little over 100,000, and the common assumption that the weekly figures of unemployment have represented a standing army which during 1930 varied in size between one and a half and two and a half millions, and during last year was still larger.

"It is a slander on our industrial position to represent us as burdened with a dead weight of something like 20 per cent. of unemployable people. The report says—and its authority is unimpeachable—that the number of those who have had no unemployment in the seven years that ended with 1930 was at least thirty times as great as the number in the standing army of the unemployed.

"That is to say that in those seven years there were over three million insured workpeople who were in constant employment."

IF the survey is carried over a longer period, *The Times* adds, and taken so far back that it includes the depression of 1921, even then it is found that 35.4 per cent. of the males and 48.4 per cent. of the females did not draw benefit in ten years.

It is true, of course, this daily continues, that all the insured workers of 1930 were not employable persons all this time. But, if allowance is made for the young recruits, the average of working time in the ten years was "seven years for males and five and a half years for females." We read:

"But the report has gone farther back still to discover that among those insured before July, 1921—that is to say, among all those whose industrial life began earlier—28.9 per cent. of the men and 36 per cent. of the women had not drawn benefit up to the end of 1930. Another of its revelations is that over the seven years that ended with 1930 less than 3 per cent. of the males and only 1.2 per cent. of the females drew benefit in every year."

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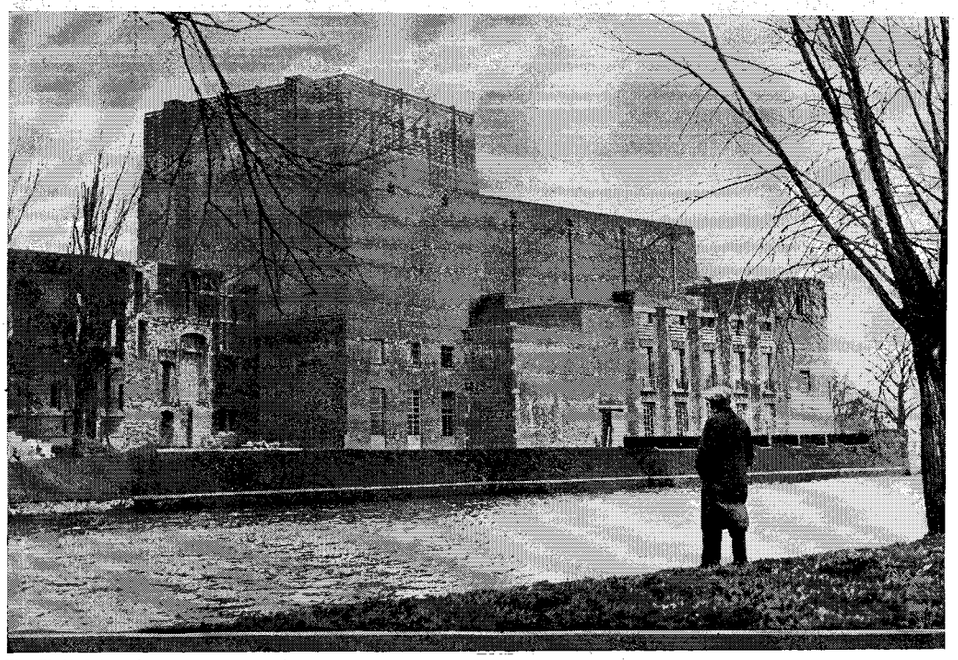
Theater or "Gaol"?

"'DO YOU SEE YONDER BUILDING? Methinks it is like waterworks.' 'Yes,' said my companion, 'it is topped like waterworks.' 'Or like a gaol,' I suggested. 'Very like a gaol,' came the answer—which seemed to recall something I had heard somewhere."

The writer is English or he would have spelled gaol, jail.

You, perhaps, gather that these two, *Hamlet* and *Polonius* for the occasion, are walking by the Avon in Stratford, England, and looking at the new Shakespeare Memorial Theater.



Wide World photograph

The "Gaol" by the Avon?

No, the new Shakespeare Memorial Theater; the "burnt-out remnant" at the left.

It was designed by Miss Elizabeth Scott, and will be opened April 23, when a memorable celebration of Shakespeare's birthday is bound to draw visitors from the whole English-speaking world.

The sight of the Memorial Theater is not pleasant to the writer in *The Morning Post* (London):

"It is an ugly, big, heavy, bare, forbidding red-brick factory, with straight lines of featureless windows, and a tower like a tank.

"It is utterly out of harmony with the lovely Avon reach it does its best to monopolize.

"It blocks out the view of the church completely from Waterside and the Bancroft Gardens. It gives to what used to be an 'other Eden, demi-Paradise' a sense of menacing obstruction.

"I have looked at it from every point of view—from Clopton Bridge and from across the river; from the Warwick Road, where the spire of Shakespeare's church is seen peeping hopelessly over the top like a bayonet through a box; from the other side of the burnt-out remnant of the old theater, which still plaintively clings to this great lump of a foster-child.

"I can find no point from which the new theater is satisfactory. Nor can I find any one in Stratford (or elsewhere, for that matter) who pretends to be sincerely enthusiastic.

"These dear, good people who have to praise it for their own or Stratford's sake apologize for it by saying, 'Ah, but it is simple!' Of course, it is. So is a cart-load of bricks.

"What we want in a Stratford theater is beauty, appropriateness to the little town among the Warwickshire meadows, to the winding river and embowering trees, and to a poet who was, among other things, romance personified.

"Even the dropsical bas-reliefs, which are as yet the only ornaments, are to me unpleasing—and they are carved in the mortared brick instead of molded in the original clay.

"The excuse is that a modern theater has to 'look like a theater.' But what should a theater look like? Is it any more like a theater for failing to suggest one? Tho the old theater had its disadvantages, I never thought of it as anything else but a theater."

How did it come about? asks the bewildered observer. Then:

"Let me come on to my happier experience of being shown over the inside of the theater.

"Within walls, there is no question that the new Stratford theater is admirable from every point of view, and beyond comparison better and more efficient than its predecessor, not to say a good many London theaters. It has an ample platform-stage, with steps going down to the auditorium, so that front-scenes and classic productions are possible in a way unknown with the ordinary picture-proscenium.

"On either side of the stage itself are bays where whole 'sets' can be prepared and slid in, so that the waits in front of a lowered curtain, which are the bane of most Shakespearian productions, need never happen.

"The dressing-rooms are a delight—with bath-rooms—and the scene-docks and storage for thousands of costumes all that the most up-to-date playhouse could hope for.

"With it all, of course, the question prompts itself—can Stratford keep a theater like this, holding a thousand, full all the year round? It could not do so with the old theater; is it more likely to with this?

"Certainly Mr. Bridges Adams's Shakespearian company—which is just now at Los Angeles on its American tour, and doing quite well—can not prolong its season much beyond the usual spring and summer festival. The first-class modern-play touring companies—and these are few nowadays—look to more profitable pitches than towns of Stratford's size.

"It is inevitable that in the winter the new Stratford theater will 'go talkie.' This is, indeed, already contemplated."

The Cover

THIS rambling homestead, "Humble House," on the banks of the Raritan River in New Jersey, has enjoyed a life of one hundred and fifty years.

Farmers were its occupants until the artist, Martha Gilbert Skougor, transformed it for her use, but maintaining its quaintness and stamp of age.

Of herself we read:

"Mrs. Martha Gilbert Skougor's activities in the realm of art only date back to the acquisition of Humble House, and during this period of six years studies at the Applied School of Design and Art Students League brought her talent forth.

"Mrs. Skougor has exhibited a number of portraits of South American Indian types, painted during two of her trips to that part of the Americas, chiefly Chile.

"As a member of the Art Students League and National Association of Women Painters and Sculptors, she is a frequent exhibitor of portraits at both societies."

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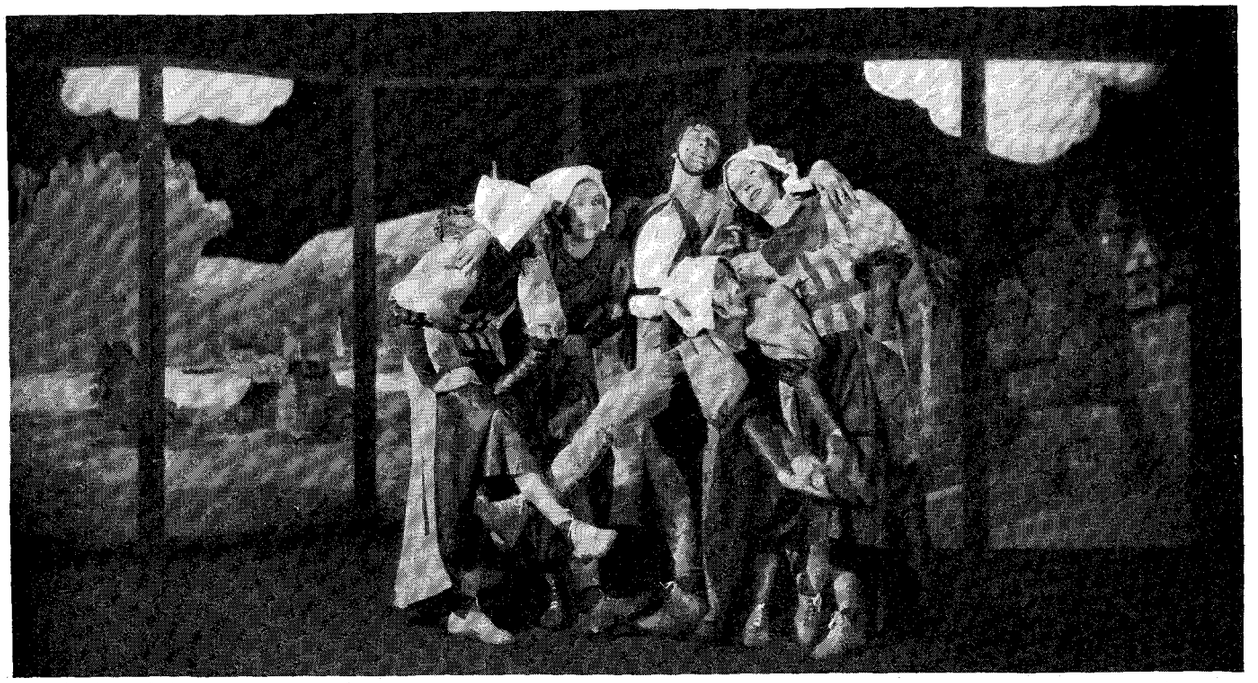

Photograph by Maurice Goldberg

The Kreutzbergers Bring to Life the Jolly Peasants That Fill the Pictures of Breughel

In a folk ballet of lusty gaiety by Frederick Wilckens.

Kreutzberg Still Reigns Favorite

AFTER NIJINSKY—KREUTZBERG.

For preeminence in dancing this judgment has been uttered on many hands.

But for versatility places might be changed, for in Kreutzberg's repertory are sounded such various notes as religious exaltation, the morbidity of madness, grief through disillusion, revolt as from the world's wrongs, the macaber of crime, the charm of Greek legend, and the gaucheries of folk-life.

Each of these notes and more are struck in the dance compositions of Harold Kreutzberg and his assistant four dancers, all representing the modern German school without being tied down by formulæ.

Beginning with Montreal in a wide sweep around the country after his New York bow, we find him renewing his former impressions and gaining new laurels. Thus Mr. S. Morgan-Powell writes in the Montreal *Daily Star:*

"In the ecstatic 'Gloria in Excelsis Deo' to music by Bach, the note of exaltation, of reverence, of adoration, of awe, stood out clearly in sharply defined rhythmic movements. In 'The Hangman's Dance' he gave a tremendously powerful impression of an executioner dancing upon the grave of his victim. It was the apotheosis of the macaber. Even so, his 'Lamentation of Orpheus' touched the profoundest depths of human grief.

"In these, as in all his other dances, he exercised a technique that is absolutely divorced from the conventional. He can move from sorrow to comedy as swiftly and as easily as a swallow flies, as he proved by his delightful dancing in 'The Envious Girls.'

"His associates gave ample demonstration of their mastery of their art in several charming numbers—a Russian dance, a Debussy waltz, 'The Cripples,' a cleverly designed and executed bit of tragicomedy, and 'Habanera at Midnight,' in which they made the most strikingly effective use of silver masks and fans and cloaks in the dim light as they moved through the slow and dramatic rhythms.

"Kreutzberg's own 'Petrouchka' was an amazing tour de force of pantomimic expression. Through the subtle and unerring use of significant gesture and rhythmic motion at the precise psychological moment, he paints a picture before your eyes—a picture that chills the blood with the spirit of horror.

"Kreutzberg repeated the superb dance of the 'Master of Ceremonies' from Reinhardt's festival play at Salsburg—an amazing demonstration of authority in gesture, of the precise, plastic portrayal of a series of poses, each of which conveys a very clear and vital meaning.

"Nobody but Kreutzberg has been able to give us such a program in the past, because nobody else has exemplified this new and striking dance technique. The utilization of every form of physical rhythm in combination with musical rhythm, with lighting effects and with costumes, directed by a pantomimic intellect, as it were, is a novelty in the choreographic world."

H. T. PARKER of the Boston *Transcript* speaks of two new ballets, the first conceived in the spirit of the racy pictures of the Flemish realist painter:

"The presence of the four young women made possible the two ballets. The 'dance-comedy' in the manner of Breughel was amusingly invented. A brightly painted screen at the back of the stage suggested one of his landscapes with every color renewed—the reds, the greens, the browns; the towered town-gate, the castle on the hill above, the gabled houses, the bright open spaces between. The five dancers were as his miniature figures magnified and freshened.

"A peasant lad plays about with the girl of his choice. From stools three other girls watch enviously, mockingly, a little sourly. He gives them back as good as they send. When they take advantage of his absence to pick upon the favored girl, he returns in the cowl and skirts of a monk; puts them all to fear and rout; throws off the disguise for merry ending. The humor is rough-coated and lusty, as becomes these Breughel-like figures; the miming is boldly outlined; the dancing—and the prancing—runs in broad design to vigorous rhythms; there are tumbles as well as steps; throughout a tousled heartiness is the word.

"Mr. Kreutzberg has a folk-vein. He gives it outlet in such a piece. Breughel, who is not so usual in American as in Central European museums, lends pictorial background. It all makes fifteen minutes of homely entertainment, but with the dance as an allied art.

"It joins with other arts again in the fragmentary 'Lamentation of Orpheus.' At the back of our heads, as we spectators watch, revives the old Greek legend of Eurydice stolen by the god of the nether world. Architecture and sculpture set up a feeble suggestion of her tomb. Before it, like figures upon an ancient relief, sit the grieving women. To and fro among them, again with relief like illusion, goes the mourning Orpheus. They leave him to his wo. A delirium of desolation and longing possesses him. He plucks Eurydice's mantle from the tomb, dances as by frenzy racked; falls spent."

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Paderewski Analyzes the Depression

"WHO IS THIS MAN PADEREWSKI?" asks Clemenceau, at the opening of the Peace Conference.

At least so the story goes.

"He is the greatest pianist of the world, now Premier of Poland," is the answer.

"*Quel chute*" [What a drop!], replied the Frenchman.

Perhaps the Tiger would believe now that Mr. Paderewski knows something of practical economics.

The debonair grace of a slender figure topped by gleaming locks, as we first knew him, is now changed to the silver-crowned column, erect and energetic in face of the assaults of seventy years.

"The vanity of the rich, the envy of the poor, and the greed of merchants in encouraging the poor to live beyond their means through the instalment system of buying," is Mr. Paderewski's explanation of the present economic distress.

This judgment is embodied in a statement recently issued to the press. The following from *The Herald Tribune:*

"The system of deferred payment is, I believe, one of the main roots of our economic disorder.

"It had its birth in the emphasis placed by the rich on a display of luxury. The poor longed to emulate this display.

"And merchants sought to make capital of this spirit of envy by encouraging customers to buy on the instalment plan.

"Thereupon people began mortgaging their whole lives.

"Their cars, their radios, their jewelry, even their clothes were bought on the instalment plan. It became a habit with them to live beyond their resources, and when the crisis came they were unable to meet their obligations.

"As a result, manufacturers who had been lured into overproduction suffered tremendous losses, and hundreds of factories collapsed the world over.

"Our standard of living had reached too high a level before the reaction set in. Families had accustomed themselves to luxuries they could not afford. Life was too complex.

"People who had fought and sacrificed for liberty had unconsciously allowed themselves to become enslaved in another way. They had become slaves to the artificial things of life—habits, conventions, and a lavish mode of living which they had come to believe indispensable to well-being."

THE solution, he believes, lies in "a simpler form of living." His views as quoted in the New York *Times* include his vision of a better life:

"We must reconcile ourselves to what has happened and adjust ourselves to a new mode of living, one in which there is less luxury but more stability. Everywhere there has been a tendency to abandon the soil and flock to the cities.

"In time people may come to realize that the country offers a happier existence than complex city life. They may want to return to their farms, but then perhaps it will be too late.

"As to music, I would at any time advise only the really talented to make it a profession.

"At the same time, I believe there should be a more general study of music. It should be regarded less professionally and more educationally.

"It should be a factor in all general education, just as it was in ancient Greece, where children were obliged to study it as part of school life.

"It should be looked on as a factor in the lives of all people, a great developing influence, not as something set apart for the few who are exceptionally endowed.

"At present there is no denying that music is suffering.

"Music schools that were once prosperous are now depleted of students. Private teachers have lost many pupils. Musicians have been thrown out of employment in great numbers by the radio and the sound films. Talented musicians are even working in shops and as laborers.

"I doubt if any other field has been so seriously affected in proportion to the number involved. They all need the aid that the more fortunate can give to tide them over until a general improvement of conditions makes it possible for them to return to their profession."

Mr. Paderewski's concert for the benefit of needy musicians was given in Madison Square Garden, February 8.

Where Kipling Hides

"IF RUDYARD KIPLING WALKED down Broadway [Hollywood], the only person who would notice him would be the policeman, who would very politely ask him for his pass."

This is the way Edgar Wallace, out there writing scenarios, illustrates an assertion in the London *Daily Mail* that "you're nobody in Hollywood."

But minus the policeman it might be Paradise for Kipling.

He turned sixty-six on December 30, and people in England are busy telling how he hates to be looked at.

Caricaturists give him an immense defiant chin, flamboyant eyebrows, baldness, and horn-rimmed spectacles. There is sometimes an ingratiating smile. Photographs do not vary greatly from this.

He "hides behind the walls of a gray-stone house, which, in turn, is hidden between two high ridges of Sussex Downs."

In *The Star* (London) William J. Makin tells of his inaccessibility:

"I set off the other day to find the home of Rudyard Kipling. I motored into the Sussex village of Burwash, a village which is in some ways disappointing. It is solid rather than picturesque. Perched on a ridge of the downland, it is windswept, and its people have a breezy downrightness in their attitude toward the stranger.

"'Could you tell me where Mr. Kipling lives?' I asked a woman standing in the doorway of a cottage.

"'I don't know,' she replied, gazing past me. That gesture gave me to understand that the conversation was definitely ended. But I also had a suspicion that she did know.

"I walked with an air of determination into the local inn and ordered a glass of beer. The proprietor himself served me, a stern, hefty man.

"'Mr. Kipling lives hereabouts, doesn't he?' I asked, as casually as possible while I took up my glass.

"The proprietor, in shirt-sleeves, braced his muscles.

"'He does,' he remarked, quietly, but dangerously.

"'And just where is his house?' I asked.

"I could see his eyes narrow. I tilted my glass of beer lazily. I half expected to be flung through the doorway into the road.

"'We don't tell that to strangers,' was the reply.

"'And why?'

"I set down my empty glass. It was taken away.

"'Because every one who comes to Burwash wants to talk with Mr. Kipling,' said the man in shirt-sleeves. 'And Mr. Kipling doesn't want to speak with no one, that he doesn't.'

"Fifteen minutes later I was standing outside the home of the sage of Sussex. A solid, gray-stone house defended by high walls, an eight-foot hedge, a moat, and a little forest of rose-trees. Wrought-iron gates chill the intruder.

"And when one glimpses Kipling himself, bristling eyebrows, brown eyes flashing behind spectacles, and square-toed uncompromising boots cleaned with old-fashioned blacking, it is more the figure of a dictator than a literary man."

MR. MAKIN adds a picture of the Kipling of to-day in action:

"No one has shown his contempt for literary men more than Kipling himself. It snarls in every page, coupled with the praise of the man of action. And here, in his house in the heart of Sussex, Kipling, at the age of sixty-six, seems to look back on a life misspent in the service of the pen.

"'Here I'm judged by my oxen,' he declares, 'not on my gift for writing tales.'

"But it is not the literary pundits who receive his wrath nowadays. His real public appearances are at the Burwash Parish Council, where he defends the old Toryism, land tithes, and all the hereditary feudal rights that still exist in that pleasant valley folded between the Downs.

"And hard-headed Sussex farmers shuffle uneasily at this wrath. They know Mr. Kipling well—but not as an author."

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Hymns That Stay and Hymns That Go

"ROCK OF AGES, Cleft for Me," rang out a rich barytone voice.

People passing in the street below perked up their heads to listen.

"Nearer, My God, to Thee" sounded above the strident honking of taxicabs.

"Jesus, Lover of My Soul, Let Me to Thy Bosom Fly"—and those who had not gone to church for years hummed the words they had learned in childhood and had not forgotten.

Time and again the strong voice of Prof. James R. Houghton of Boston University was lifted in the parlor of a hotel in Pittsburgh. His audience closeted with him listened attentively. They nodded their heads in unison as the old favorites were sung. These must remain in the Methodist hymnal. They belong to the world and to time. It was no wonder that people below paused to listen—a vaster audience had decided the question long before the grave critics had thought of gathering to select what songs should be retained and what should go.

All this singing in the hotel room, an Associated Press dispatch tells us, was to help a commission representing the Methodist Episcopal, the Methodist Protestant, and the Methodist Episcopal Church, South, in its difficult task of revising the old Methodist hymnal.

Other old-time hymns, the dispatch tells us, did not pass muster. They are, the thirty commissioners say, the least known and favored of the hymns. They include "Church Triumphant," "O Come With Me," and "O Perfect Love."

Traffic Halted

As Prof. James R. Houghton sang the consoling strains of "Rock of Ages" and other old-time favorites for the Methodist Commission appointed to revise the Methodist hymnal.

THE singer tried some later ones. About two hundred of them were welcomed to the new book, to take their place beside the old loved ones that remain.

In all, we are told, approximately two hundred hymns were removed. Some were taken out because they were regarded as "impossible," contained "exaggerated imagery," or were obsolete.

Methodists of the old school, writes W. M. Rimmel, special correspondent of the Consolidated Press Association, immediately set up a cry as the committee discarded two hundred ancient songs. But the committee stood their ground.

"Sentimental Methodists will have no cause to mourn when the revised hymnal is published," announced the Rev. J. W. Hawley of Pittsburgh at the completion of the week's work.

"Of the two hundred ancient songs that have been eliminated," said Mr. Hawley, as Mr. Rimmel quotes him, "only one or two are really known by churchgoers." He recalls:

"Many of the hymns discarded were used twenty-five years ago, and no one ever liked them, or even sang them. They merely took up space in the hymnal.

"The modern songs that will replace the discarded hymns will also have to undergo the same test as the old-timers. Some may catch hold of public taste, others may not. When the hymnal is revised again in Cincinnati in March, many of these new hymns may be scrapped.

"Popularity was the first test to which the songs were submitted. Flowery figurative language was another attribute of a song that doomed it in the eyes of the modernizing committee. The meaning in many of the discarded songs was so clouded with allegorical and figurative expressions as not to be intelligible to the average person. This was especially true of some of the songs written by John Wesley, which were discarded. Harmony of words and music was another criterion."

THE committee, according to Mr. Rimmel, said that it ruled out several songs by John Wesley, father of Methodism, including "Friend of Sinners, Lord of Glory," "Our Lord Is Risen," and "Jesus, My Church, My Way," because they were unpopular, and people didn't like to sing them. It was explained that no songs were discarded because of conflict with church dogma.

The committee, which will gather in March to make the final revision, includes R. G. McCutcheon, dean of music of De Pauw University and editor of the Methodist hymnal; Bishop John M. Moore, of Dallas, Texas; Dr. F. S. Parker and Prof. Charles C. Washburn, of Nashville, Tennessee; Dr. Karl P. Harrington, of Middletown, Connecticut; Prof. James R. Houghton, of Boston University, Dr. Nolan J. Harmon, Jr., of Baltimore, and Earl E. Harper, of Evansville College, Indiana.

Many of the old hymns have become part of the world's folk-songs, and the matter of revision, of course, excites a deal of interest. It seems generally agreed that the committee acted wisely in retaining some of the old favorites that have taken on a quality of timelessness.

The committee's wisdom, remarks the New York *Evening Post* appreciatively, "has come from its ratification of the processes of natural selection. Hymns do not live alone in books." For,

"There are those who know every word, every syllable, every note of 'Rock of Ages' who never saw it set down in black and white.

"They learned its majestic measures in childhood, for great hymns have that peculiar folk quality of passing from generation to generation by word of mouth. And even those hymns which are frankly exaggerated in imagery have and always will have their devotees, if they have that vastly more vital quality, emotional inspiration.

"It is something more than words which relegates a hymn into oblivion, just as it is something more than words which lifts a hymn to lasting life."

YET, the Boston *Herald* reminds us, "new and beautiful hymns are written every year, and often it would be difficult to know if their writers were Unitarian or Trinitarian, Catholic or Protestant." It is recalled that

"Cardinal Newman wrote 'Lead Kindly Light,' Washington

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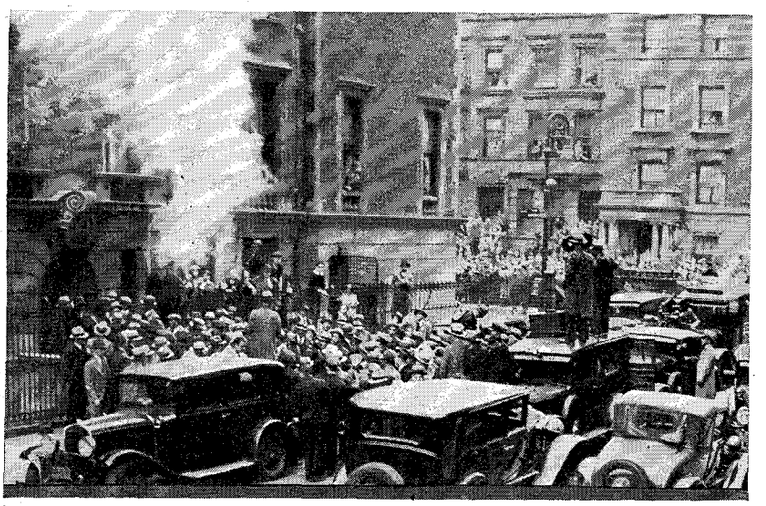
Gladden, 'O Master Let Me Walk With Thee,' and Phillips Brooks, 'O Little Town of Bethlehem.' How different these three were, each from the other, and how the Church universal prizes these hymns!

"Hymnals, as a matter of fact, have a way of revising themselves.

"The books may not be changed. No pages may be removed. But the hymns that appeal to the people, that give valid expression to their aspirations, that reflect not the passing moods of the past but the permanent verities of religion, these endure and these are sung constantly.

"Other hymns for occasional use are retained in the books, and still others are seldom or ever employed in the services of the church or in private houses. When official revision is decided on, certain hymns are dropt by almost universal consent, others are retained as a matter of course.

"It is in reaching decisions as to those which belong to neither of these classes that difficulties arise."



Acme

The Capture—Last Act in the Crowley Tragedy

An Autopsy on Crowley's Soul

"I DON'T MIND IT," said Francis (Two-gun) Crowley, pale and smiling, as they strapped him in the chair.

So, with his head up, the social misfit born out of wedlock of a policeman and an immigrant housemaid went to his death for the murder of a policeman.

The country is familiar with the criminal career of the boy, who was finally captured after a spectacular gun battle with a battalion of police.

Now an advocate makes us familiar with the circumstances and environment under which society permitted an imbecilic youth to grow into a criminal, and then killed him.

As the law goes, the people of the State of New York have been vindicated.

But the case of Francis Crowley against the State of New York has not yet been decided. It is presented to us in *The Survey* by Dr. Ira S. Wile, psycho-pediatrician, and lifelong student of child behavior.

All the odds, it is recited, were against Crowley from birth. When a month old he was abandoned by his mother, and after that neither parent appears in the record. His foster mother, whose name he bore, took all reasonable care of him while he lived with her. Because of illness she had to surrender him to a home when he was two and a half. Three years later he returned to her, and after that his is an involved and dreary record of going from one home or school to another, of truancy, of arrests and probation, of utter inability to adjust himself to any environment where various agencies placed him.

WHEN eleven he suffered two serious injuries to his skull. A year or so later his foster brother was killed in a revolver battle with a policeman, which, we are told, undoubtedly made an impression on him. Tho left-handed, he was forced to learn to use his right hand, a recognized source of nervous strain. It resulted in making him ambidextrous in shooting.

When he left school at seventeen, Crowley was unable to read and write "The cow jumped over the moon." Yet he was handy with tools, and as an apprentice at lathing he made as much as $44 a week, $20 of which he gave to his foster mother. In the death house he showed his skill by making a cardboard model of a bridge, which is said to show signs of talent.

He was pronounced a menace to society when he was nineteen, but he was equally a menace five years before. He was only twenty, and still growing physically when he died, but mentally he was little more than ten. He had developed into a warped, frustrated, mentally limited, immature-minded youth. For recompense he became a braggart. Pompous vanity filled his soul. Colossal egotism made up for his five feet of stature and his puerile mind.

FINALLY, caught up in a shooting and fearing the police, he bought two each of several kinds of weapons and began a career of adventure and crime, ending with stick-ups, shooting a detective, killing a policeman.

He had a home, to be sure, with kindness and religious education. But it is apparent to Dr. Wile that within that home "elements were working against him in pattern and performance, as noted in the shooting affair of his foster brother and the police."

So Dr. Wile views Crowley's case, and puts the problem which Crowley left behind:

"Society is responsible for the continued existence of orphan asylums, and this boy in his early years was exposed to the restrictive influences of two institutions in which he manifested mischievousness and a rebellious spirit.

"In this early formative period, to what extent was society responsible for reactions against persons and events that tended to limit the growth of his personality in terms of his limited intelligence? To what extent did this early experience lead to antisocial attitudes? Why should not society have known his mental state shortly after he entered school? Why should it have taken eight years and an experience in a Juvenile Court to ascertain that he was intellectually substandard? Is not the inability to learn to read and write significant? What responsibility had the school for attempting to convert this boy, naturally left-handed, to right-handedness?

"How far did the school, an institution of society, fail in its work in solving the problems of truancy? Why was he not sent to a truant school or place for temporary reform other than his short stay at St. Michael's? What effort did the school make to bring about an adaptation in school life? What explanation is there for placing this subnormal boy with special deficiencies in reading and writing in a printing class? What consistent effort for character-training and personalty-development is noted during his school career? His education for character, citizenship, vocational development and economic security does no credit to the State of New York."

THEREFORE, writes the examining physician:

"I charge that society failed to make a rational effort to develop this one of its wards, to build upon what strength he possest, and to cultivate the virtues that were latent—an indictment of social inactivity, indifference, or ignorance.

"Francis Crowley was born an unwanted child. His life ended as an unwanted man. Can any one bring an indictment in the action of Francis Crowley vs. The People of the State of New York?"

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Racking Arms for Good and All

IT'S "CEASE FIRE" FOREVER for the Ohio Pastors' Convention.

Representing most of the Protestant denominations of the Buckeye State, the pastors take a belligerent attitude against all war by declaring that they will never sanction or participate in any war.

They deny, and will refuse to support, the theory that the needs of the State should override the dictates of conscience in the matter of military service. They will have none of it.

War, they say, should go the way of dueling. And they put it all down in a resolution, adopted by a close *viva voce* vote.

In a special resolution on the refusal of citizenship to Dr. Douglas Clyde Macintosh, of Yale University, because he will not promise to bear arms in event of war, the pastors "solemnly refuse to acknowledge the obligation which the Supreme Court declares to be binding upon its (United States) citizens. We have not promised, expressly or tacitly," they say, "to accept an act of Congress as the final interpretation of the will of God, and we will not do so." The resolution continues, as we take it from the report of Guy Clemmitt, religious editor of the Cleveland *Plain Dealer:*

"In our allegiance to our country we withhold nothing, not even our lives.

"But we can not give our consciences. They belong to God.

"We further solemnly declare that until this intolerable restriction has been removed we will on any and all occasions reserve the right of conscience denied by it; will use whatever influence is within our power, in our personal relations, or in public address, to inform others and to awaken them to the peril in which this decision involves their traditional and most fundamental liberty, and will do all that lies within our power to secure a reversal of this decision by the court itself, or its correction through adequate legislation by Congress."

THE resolution against war is as strongly worded. It is, perhaps, the most emphatic of all recent protests against resort to arms.

The pastors "hold that ministers should uncompromisingly practise and preach the pacificism of Jesus, which recognizes that spiritual, not physical, force is the ultimate power."

Then, as Mr. Clemmitt gives it to us in *The Plain Dealer*, the resolution goes on:

"We are convinced that war is un-Christian, futile and suicidal, and we renounce completely the whole war system.

"We will never again sanction or participate in any war.

"We will not use our pulpits or classrooms as recruiting stations.

"We set ourselves to educate and lead youth in the principles and practise of good-will, justice, understanding, brotherhood, and peace.

"We will not give our financial or moral support to any war.

"We will seek security and justice by pacific means."

BUT suppose these pastors were put to the test. Suppose war should come, what then?

Agreeing thoroughly that all nations are under a moral obligation to disarm "as far as reasonable safety will permit," and believing that the United States should join the League of Nations "as a further measure of safety against war," *The Plain Dealer* puts a question and an answer:

"If, however, in spite of everything that Christian statesmanship can do, America shall find herself again at war, what attitude shall the honest lover of peace adopt?

"Shall he refuse to 'sanction or participate'? That is mutiny.

"Shall he refuse to give 'financial or moral support'? That would give comfort and aid to the enemy. It would amount to firing on American soldiers from the rear.

"Advocates of peace—more power to them!—should temper their crusading spirit with the spice of reason. These Ohio pastors are patriotic, intelligent American citizens whose devotion to the Republic could not be dissolved overnight if the country were to find, unfortunately, that war were the only way out.

"Ten months before his reelection Wilson said that, while he had thus far kept America out of the war, circumstances might arise that would force him to lead America into the war. Wise statesmanship always looks ahead to that dire possibility, fighting in complete earnestness the while to avoid that last resource of national honor.

"In case of another war these Ohio pastors would be better than their word."

BUT on the eastern seaboard, where shadows of war always loom larger than in the Mid-West, the Brooklyn *Eagle* ruffles its feathers reminiscently, and says it thinks the position of the Ohio pastors is illogical. Would they refuse to spring to arms or advise their parishioners to refuse if the country were invaded? We are reminded that:

"Quakers fought bravely in the Civil War, which they thought of as a war to end slavery. James Russell Lowell, after damning war as 'murder' in the 'Biglow Papers,' urged enlistments against the South. The Ohio pastors are not alone in their inconsistencies.

"What seems to be plain is that John Doe merits the fullest approval for refusing to fight for a cause he believes to be unrighteous. That he may go to prison for refusing is a high test of courage. But the assumption that no war is ever justified is never to be sustained until the millennium has arrived."

Nails

By Gertrude Ryder Bennett

WE are the servants of the will of man.
We grasp his shingles in the winter's storm
And shelter him according to his plan.
We hold his roofs and walls to keep him warm.
We build his granaries for harvest time.
We give him barns and fences, even make
The arbors where his crimson roses climb.
Upon our slender backs we undertake
To hold the spires that represent his creeds,
The altars of his faith, his choir stalls.
We wait to serve mankind. Our muteness pleads
With those who drive us into spires and walls.
Let us atone, or we are worthless dross—
For once we nailed a Savior to a cross.

—*The Christian Century, Chicago.*

The Virgin Mary Not Worshiped

THE Roman Catholic Church does not worship the Virgin Mary.

Cardinal Hayes's words are repeated, because some confusion seems to exist in Protestant minds as to the exact place the Virgin Mary holds in Roman Catholic doctrine. And, of course, every church is entitled to say what it does, or does not, teach.

Some of the replies to the Pope's recent invitation to all the separate churches to unite with Rome, as quoted in these pages January 16, refer to "Mariolatry," so-called, as one of the bars to union.

It is true that the Roman Catholic Church teaches that the Pope is spiritually supreme, and that he is infallible, but only in matters of faith and doctrine. But Roman Catholics are not taught to worship the Virgin Mary, we are told.

"The Church neither teaches nor practises such a doctrine," says Cardinal Hayes in a pastoral letter read in all the churches of the Archdiocese. "We venerate Mary because she is the mother of God. We petition Mary to intercede for us before the throne of God. We never forget that Mary is a creature, and can never be the object of the worship we render to God alone."

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SCIENCE AND INVENTION

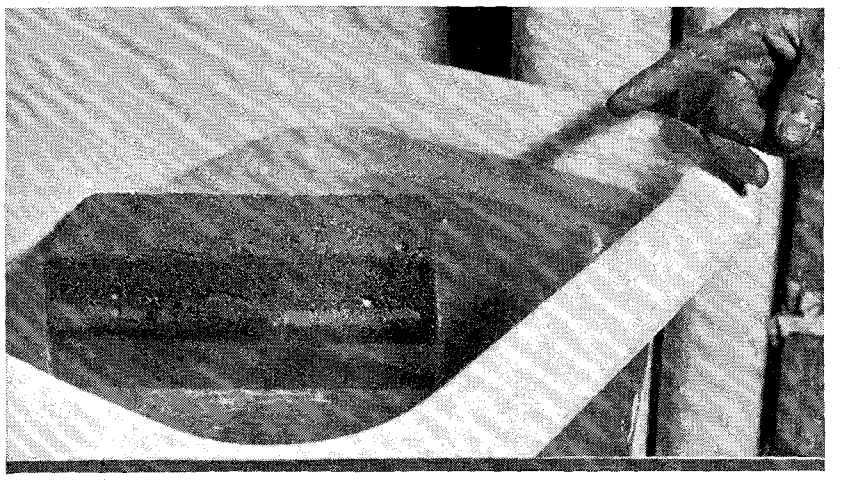
Bricks That Float

IT IS NOT PLANNED TO BUILD BOATS of them. But the fact that they are light enough to float makes it possible to handle them more rapidly.

It now costs more to lay a brick than it does to make it. The lighter the brick, the more quickly, and therefore the more cheaply, it can be laid.

The invention of a light but strong brick, recently shown to New York chemists, as described below by a New York *Times* reporter, is therefore a piece of important news. The story runs as follows:

"A brick lighter than water, yet strong enough to support its weight if built into a tower five times the height of the Empire State Building, which will enable a bricklayer to lay two bricks with the same effort now required to lay one, was demonstrated before members of four chemical societies at the Hotel New Yorker by Dr. Charles Frederick Burgess, head of the Burgess Laboratories.



Photograph by Haibran

The Brick That Floats

"Dr. Burgess displayed the floating brick during his acceptance speech of the Perkin Medal for 1932, awarded annually by the American Section of the Society of Chemical Industry, for 'distinguished services in the field of applied chemistry.'

"'I have in my hand,' Dr. Burgess said, 'a piece of brick—made from a clay. As I place it in this glass of water you will notice that—it floats.

"'And you will have to take my word for it, that if I should leave it here for a year it would still be floating.

"'In other words, we have a brick which is light, one-fifth the weight of an ordinary brick, of high heat-insulating quality, porous, yet resistant to the entrance of water, and of a crushing strength sufficient to support its weight if built into a tower five times the height of the Empire State Building.'"

A NEWS dispatch, Dr. Burgess explained, relating that it takes a bricklayer sixty-five seconds to lay one brick, led to an effort to reduce the high cost of building by lightening the brick. It was figured out by Howard F. Weiss, a New York chemist, that under prevailing rates, it costs four times as much for the labor of laying a brick in place as it does to manufacture it. Dr. Burgess continued:

"'Mr. Weiss then said: "Why not make a brick so that with a given physical effort two bricks could be laid at one time and with the same motions that are required to lay one?"

"'This, in fact, now appears possible. It has not been accomplished, as the technical practise has not been perfected. But, altho the process is still in the development stage, the outcome looks promising.'

"Dr. Burgess was born in Oshkosh, Wisconsin, June 5, 1873. After teaching for several years at the University of Wisconsin, from which he was graduated in 1895, he entered the field of chemical engineering research in industry. He now heads five companies with a capitalization of nearly $3,000,000, employing more than 1,000 persons and with an annual production of about $6,000,000."

The Food of the Brain

THE OLD MYTH THAT THE BRAIN lives on phosphorus has now been consigned to the discard.

A diet of fish will not produce a Shakespeare, a Plato, or an Einstein.

Recent researches, we are told by an editorial writer in *The Journal of the American Medical Association* (Chicago), show that the brain is nourished wholly by carbohydrates—sugar and the lactic acid into which it is converted.

These investigations also show that the brain is not dependent on insulin—a fact of importance to sufferers from diabetes. We are told:

"The machinery of life obtains its power from energy liberated by the oxidation of foodstuffs.

"For a long time it was the belief that fat, dextrose [a sugar], and protein enter the blood stream and are burned in varying combinations by each organ according to its requirements. It is now generally agreed that muscle satisfies its needs for energy by the oxidation of both fat and dextrose.

"Do other organs obtain their energy from the same substances?"

PEOPLE with intellectual ambitions should now read carefully:

"For the brain the answer is now at hand. Recent work points to carbohydrate as the sole source of energy of this highly specialized tissue.

"In 1929, Himwich and Nahum reported a series of observations on the brain of dogs, which indicated clearly that this organ utilizes carbohydrates exclusively as a source of energy. The character of the foodstuff oxidized was not altered by anesthetics, since otherwise normal unanesthetized animals yielded the same results.

"A further most important observation was that in animals that had lost the capacity of oxidizing sugar—the brain continued to utilize carbohydrate as its source of energy despite the disappearance of insulin from the body of the experimental animal. Here, then, is a case in which lack of the pancreatic hormone does not cause an organ to burn fat as its source of energy."

This, it seems, is of great interest to the victims of diabetes. We read further on this point:

"A study of the venous blood of the brain in both diabetic and normal animals showed the presence of less dextrose and lactic acid than was present in the arterial blood going to the brain. This fact makes it clear that these substances are utilized by the brain as its source of energy. Lennox more recently has obtained striking corroboration of the foregoing conclusion in unanesthetized patients. He studied simultaneously the brain and the muscles of the leg. While the contractile tissue of his subjects subsisted almost entirely on fat, the brain utilized carbohydrate for its requirements.

"Here, then, is evidence of the unusual phenomenon of an organ, the brain, which lives exclusively on sugar when other organs burn fat. Furthermore, even in the absence of insulin, carbohydrate remains the sole substance utilized by the brain for its requirements of energy, a matter perplexing to many physiologists.

"Since it is generally believed that oxidations of dextrose can occur only in the presence of insulin, it becomes clear that dextrose as such is not oxidized by the brain.

"How, then, is it utilized? The answer is afforded by the investigation of Holmes, who studied the excised brain and showed that, even in the absence of dextrose, its oxidations continue satisfactorily, provided only that lactic acid is present (or added to the preparation). Furthermore, it was found that, when dextrose was supplied, the oxidations by the brain tissue progressed, provided dextrose could be converted to lactic acid, and not otherwise.

"Dextrose, then, is the precursor of lactic acid, which is probably the sole fuel of the living brain. By subsisting on lactic acid the brain becomes independent of insulin, a circumstance obviously of the utmost importance to the diabetic patient. How many other organs in the body depend on a similar mechanism is still to be determined."

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A

DEMOCRACY

IN INDUSTRY

IN THE PAST TEN YEARS the number of Bell telephone calls made daily in this country has doubled.

The American people do not double their use of anything unless it returns a dollar's worth of value for each dollar spent.

A telephone in your home costs only a few cents a day. Yet it brings to your service the use of billions of dollars' worth of property and the efforts of hundreds of thousands of skilled workers. Fair pay to the workers and a modest profit on this property is all you pay for. There are no speculative profits in the Bell System. Everyone, from the president down, works for salary and pride of achievement.

More than six hundred thousand people are shareholders of the American Telephone and Telegraph Company. There are shareholders in every state of the Union. About half of them are women. One out of five is a telephone employee. But no one owns as much as one per cent of the stock.

The Bell System, in the best sense of the word, is a democracy in industry . . . operated in the best interests of the people who use it.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY

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Heat and Power From Sewer Gas

SOME NEW FEATURES MARK the successful attempt of the city authorities of Plainfield, New Jersey, to utilize sewer gas for the production of heat and the development of power.

The plan is thus described and explained in the Plainfield *Courier-News:*

"Sewer gas, never very popular, gained for itself a particularly unenviable notoriety early in October when an explosion destroyed a part of the Woonsocket, Rhode Island, sewer plant and caused the death of two men. Engineering publications throughout the country have carried columns of reports and discussions on this explosion.

"At the local joint sewage-disposal plant the heating power of this gas, which is 50 per cent. greater than that of manufactured gas, has been harnessed and put to useful purpose during the past five years by means of a safety collective device developed by the supervising engineer, John R. Downs.

"The organic matter or the solid portion of the sewage is destroyed, and the remainder of the solids rendered innocuous, by a digestion process. This process is greatly accelerated by heat, so that the time necessary to complete the process is cut down from five or six months to a period of from thirty to forty days. When we consider that about 2,000 cubic feet of these solids reach the plant daily, the saving in the capacity of structures to hold these solids, until the process is completed, becomes obvious.

"The Plainfield Joint Sewage Plant was the first to apply this principle by using the gas given off during the process to supply the heat necessary for acceleration. The more heat that is supplied, within certain limits, the more gas is produced, so that there is always an excess quantity of gas.

"Part of the excess gas has now been piped into the office and laboratory building where it is burned in the steam-heating plant. A visit to this building will rouse the envy of any coal-shoveling householder. An absolutely uniform temperature of 70 degrees can be maintained night and day without shoveling coal or removing ashes.

"Power has also been developed from this gas, one horse-power being available continuously from each 1,000 persons connected to the sewer system, or fifty horse-power at the local plant.

"A very interesting development is that both the power and the heat can be recaptured from the same gas. The best gas-engines made are only 25 per cent. efficient, thermally speaking, the other 75 per cent. of the heat value of the gas being given up to the cooling water in the engine jacket or lost in the exhaust. By water-jacketing the exhaust and using the cooling water to heat the sludge or buildings, 75 per cent. of this waste heat can be recovered."

More Usable Radio Channels

LIFTING THE VEIL OF RADIO in the future—five years hence—Lieut.-Com. T. A. M. Craven of the Radio Division of the Bureau of Engineering, U. S. Navy Department, foresees an addition of 1,682 channels for radio-telegraph communication.

This increase from the present available 2,240 frequencies to a total of 3,922, he anticipates, will be the fruition of advanced engineering practises.

Says S. R. Winters, in *Radio Engineering* (New York):

"This increase in radio-telegraph avenues of communication, according to the forecast of Lieutenant-Commander Craven, would be distributed over three bands of services, as follows: In the low and medium-frequency band, the number of available channels would increase from 502 to 649, a gain of 147 frequencies; in the continental high-frequency band, there would be an appreciable jump from 639 to 1,398 channels, a gain of 759 available frequencies; in the transoceanic high-frequency band there would be a correspondingly large growth—from 624 to 1,400 frequencies—a gain of 776 channels.

"Add to these increases the 475 radio-telegraph avenues in the broadcast band, and the number of usable frequencies for code communication has mounted to a total of 3,922, a gain of 1,682 channels.

"This same degree of optimism, however, is not applied to the broadcast band.

"Any closer separation than ten kilocycles for broadcasting would sacrifice the quality of music which is so desirable in this type of radio service.

"Furthermore, in an elaborate statistical array outlining the diversity of uses for radio channels the world over, this naval radio engineer notes that the cost of constructing a broadcasting station varies from $25,000 to $500,000. If, he indicates, the power factor ranges from 100 to 50,000 watts there is, of course, a corresponding wide variation in the coverage of a broadcasting station—from 50 to 1,000 miles. While the 10 kilocycle separation in broadcasting channels admits of only ninety-six avenues of communication for radio telephony—forty cleared, forty-three regional, and six local channels—there are in the frequency band from 550 to 1,500 kilocycles, 475 radio-telegraph channels, with only a two-kilocycle separation.

"The world-encompassing chart showing the distribution of radio channels to various services, and the physical factors which make for their advantageous use, indicates that there is a progressive decline in the cost of radio stations as the channels employed vary from low to high frequencies. For instance, the cost of a station using the band of frequencies from ten to seventy kilocycles—extremely long waves—ranges from $1,000,000 to $3,000,000, and the power necessary to give maximum service is computed to be 200,000 watts. This type of station is designed for communication over distances exceeding 2,000 miles. On the other hand, in the high-frequency band from 6,000 to 6,150 kilocycles the cost of a station varies from $250,000 to $1,000,000, and with variable power factors from 20,000 to 50,000 watts the coverage ranges from 500 to 8,000 miles."

"The Metal That Talks"

MOLYBDENUM, A RARE METAL confused with lead by the ancient Greeks, and known to radio experts as "the metal that talks," is being put to new uses through modern science, according to a research narrative prepared for the Engineering Foundation, by W. H. Phillips, Pittsburgh metallurgist.

Thousands of miles of molybdenum wire, drawn through diamond dies, have been used in the radio industry, says Mr. Phillips, who points out that, while the air or the ether carries the radio broadcast wave, it is the metal molybdenum sealed in tubes which puts the wave on the air, and then in different tubes recaptures it, to be turned back into music or words. To quote the narrative:

"Thin-walled, high-strength, chromium-molybdenum steel tubing has made modern high-speed airplanes possible. No substitute has been found for highly strest members in the fuselage. It combines the unusual advantages of high strength without complex heat treatment, easy weldability, and no appreciable loss of desirable properties in welded joints.

"It enables designers to increase strength with no increase in weight.

"The pure metal is extensively used in the incandescent and radio bulb industry. In the forms of salts and oxid it is used in the chemical and dye industries."

DURING the last thirty-five years, a great deal of research on this metal was done in Europe, Japan, and the United States, but not until the World War did it come into prominence. It was then extensively used as an alloying element in light armor-plate, helmets, and Liberty engines, because of great increase in strength and toughness imparted to steel. To quote further:

"In the last few years, large deposits of ore have been discovered in the United States. There are deposits, of varying richness, in many parts of the world, but the largest and richest known are in this country.

"Rapid lowering of cost by increased production has resulted in a large portion of the world's requirements being supplied from American mines. This important element could not be shut off from this country in times of stress as could some alloying elements used in steel.

"It has been said that, excepting carbon, molybdenum is the most potent alloying element added to steel. Molybdenum can be substituted for tungsten in the ratio of one for two.

"Used in percentages as low as one-tenth of 1 per cent., or two pounds to the ton, it has shown marked tendencies in resisting corrosion. In percentages up to 10 per cent. it offers a possible substitute for the tungsten high-speed tool steels.

"Thus do we find modern industry, engineering, and research making a place for a material known for a century and a half, but little used until within the last few years."

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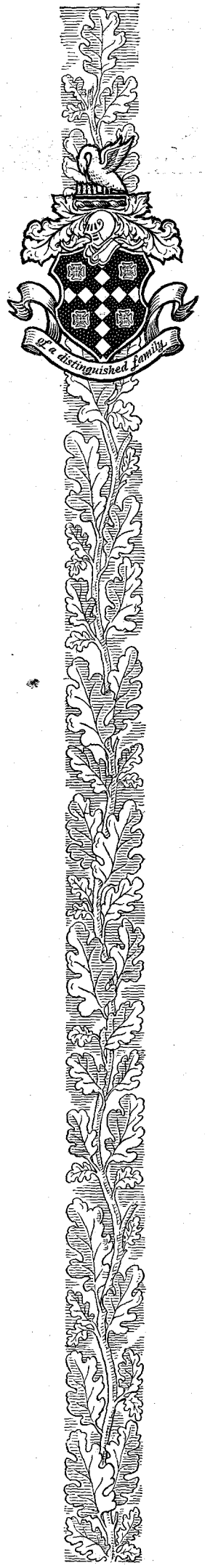

PACKARD
FOR 1932

IN announcing its program for 1932, Packard has been conscious of the desirability for stabilization. In presenting now its plans for the year, it hopes to dispel uncertainty—at least insofar as Packard is concerned—as to later developments.

Toward that end it is announcing now two new lines of cars for delivery shortly—the Twin Six and the Light Eight. These new lines will be in addition to Packard's present, very popular Standard Eight and Eight DeLuxe models, and with them will completely cover the fine car field in all price ranges from $1750 upward.

Prices have been established on its entire four lines of cars so low that only an anticipated increase in volume can justify them. Packard expects to supply no other models of these cars before the close of the year and any price changes are more likely to be upward than down.

Alvan Macauley

President—PACKARD MOTOR CAR COMPANY

FOUR LUXURIOUS LINES OF PACKARD CARS AT FOUR DISTINCT RANGES OF PRICE

The Twin Six The supremely luxurious new Packard Twin Six is a sensational achievement embodying sixteen years of continuous experience with twelve-cylinder designs. Chassis include Packard's new Synchro-mesh Transmission, *quiet in all three speeds*, Finger Control Free-Wheeling and Ride Control, the original system of dash-adjustable shock absorbers. When you consider the performance possibilities of the conservatively rated and economically developed 150 horsepower of the new Twin Six, you will be truly surprised at the factory price range of this great car—$3650 to $4395.

The Standard Eight The famous new Packard Standard Eight, the most popular and widely acclaimed Packard car in history, is available as in the past in thirteen beautiful models on 130 and 137 inch chassis. Now, with Synchro-mesh Transmission, *quiet in all three speeds*, and Finger Control Free-Wheeling, both optional at no extra cost, it becomes an even more outstanding value in the fine car field. Automatic chassis lubrication and Ride Control add to its riding ease. A distinguished car for those with high motoring standards. Factory prices, $2250 to $3250.

The Eight DeLuxe The new Packard Eight DeLuxe is the companion car to the superb new Twin Six. It is the supreme development of Packard's ten years of straight-eight engineering, and will continue to rank as the world's finest eight-cylinder car. Like the Twin Six it is available on chassis of 142 and 147 inch wheelbase and with a wide choice of standard and individual custom bodies. Synchro-mesh Transmission, *quiet in all three speeds*, and Finger Control Free-Wheeling are now both available as optional equipment at no extra cost. Factory prices, $3150 to $3895.

The Light Eight The new Light Eight is offered in four large, beautiful and completely modern models, all on a chassis of 128 inch wheelbase, with eight-in-line motor of 110 horsepower, Angleset Rear Axle and double drop frame. The new Light Eight provides Synchro-mesh Transmission, *quiet in all three speeds*, and Finger Control Free-Wheeling. Thousands who have long desired the luxury of Packard transportation can now enjoy it, for the Packard Light Eight costs no more to buy or to operate than cars providing far less in size, performance and prestige. Prices at the factory, $1750 to $1795.

ASK THE MAN WHO OWNS ONE

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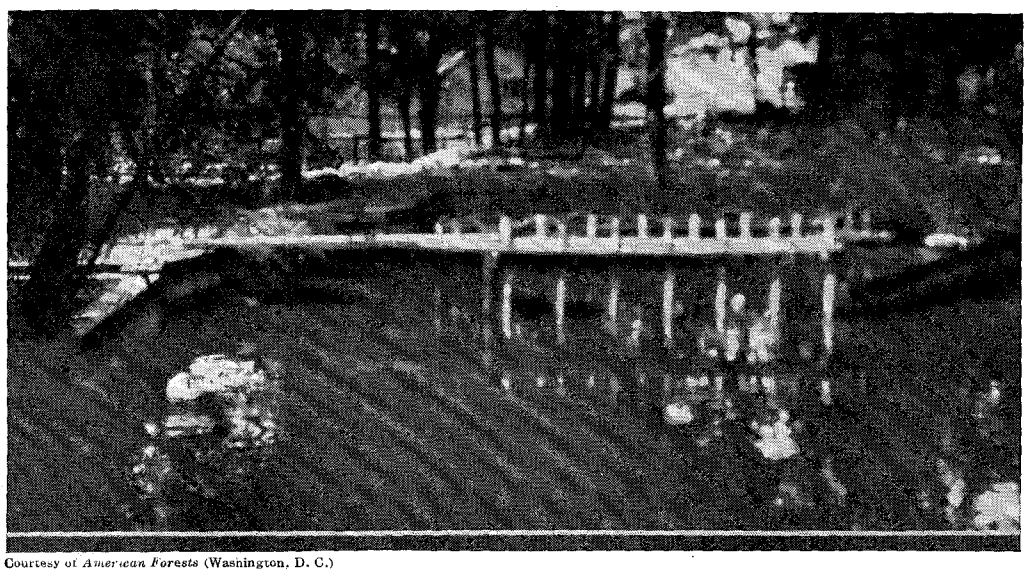
ELECTRONIC REPRODUCTION PROHIBITED

Stop-Lights for Fish

THAT THE FINNY CLAN MAY BE GUIDED electrically along river and stream highways from the mountains to the oceans much the same as motorists are protected along arterial streets is asserted by Anthony Wayne in *American Forests*, in an article reprinted in *Safety Education* (New York). F. O. McMillan, electrical engineer of Oregon State College, in cooperation with light and power companies, the Bureau of Fisheries, and other agencies, has perfected ingenious devices that will guide salmon, trout, and other finny friends along their watery courses away from side traffic danger. A preliminary notice of his device appeared in these pages in July, 1929. We read:



Courtesy of *American Forests* (Washington, D. C.)

Electric Screen for Traffic Control of Fish

"To electrically control fish traffic may seem like wasted effort and misapplied energy, but in our present crowded civilization, conservation and use of natural watercourses, coupled with our need of fish for canneries and food supplies, the problem of how to save the reckless fish that wander off the main highways is a real one.

"Every year millions of game fish are carried out on the fields and left to die because they have followed some irrigation canal instead of the main-stream channel. Many others are killed by mechanical devices that exert sudden pressures, such as hydraulic turbines.

"There are numerous barriers along the Pacific coast streams to keep the young fingerling salmon from detouring into irrigation ditches, but the trouble is that these wire barriers must be so small, at least a quarter of an inch in mesh, that they become immediately filled with leaves and water débris, and clog up and stop the flow of water."

MR. MCMILLAN became interested in applying electricity to the water in a way that would gently shock the salmon and trout into keeping in the main streams. After a series of interesting experiments, says Mr. Wayne:

"Mr. McMillan applied his methods in the waters about the Bonneville Hatchery, in Oregon. With electrodes in the water across the mouths of irrigation ditches where traffic to fish was to be closed, he turned on twenty-four volts.

"Almost instantly fish avoided this water. The traffic signal was against them.

"With 2,000 chinook-salmon fingerlings swimming about, he saw them turn away when coming within a foot of the charged water. With twelve rainbow trout the same thing happened. An odd thing occurred that helped him to know that his method was correct. The fish were feeding on beetles which frequently drifted into the electrified waters. Would the salmon pursue them past the traffic signals? They would not.

"It is believed that this method will save thousands of fish for food besides ridding the farmers of a serious bit of trouble in caring for the dead fish that are caught when the irrigation streams are turned about and the water soaks into the ground.

"In the natural streams where the tests were carried forward under many conditions, it was found that whole schools of fish drifting along with the water, and then suddenly coming in contact with the signal devices, would be warned by the leaders, who would in some strange way pass the word back, and they would all turn as smoothly as a motor-traffic parade upon reaching a curve in the street with the red light before them."

Smoking and Endurance

PROFITING BY THE OPPORTUNITIES afforded by the three-mile cross-country run held periodically at Aldershot, England, T. F. Kennedy has studied the influence of smoking on the endurance of the runners, with interesting results. Says *The Lancet* (London):

"During ten years nearly 2,000 men were observed. These were graded into non-smokers, moderate smokers (those taking the equivalent of less than 20 cigarets a day), and heavy smokers (those taking the equivalent of 20 cigarets or more a day). The numbers in the various groups were: non-smokers 345, moderate smokers 1,461, and heavy smokers 167.

"Of the non-smokers, 18.8 per cent. were among the first ten to arrive home in the three-mile race, while the corresponding percentages for the moderate and heavy smokers were 8.6 and 6.0 respectively.

"Further, a study of the last ten men to finish the race each year showed that only 4 per cent. of the non-smokers were in this group, but 11.4 per cent. of both the moderate and heavy smokers.

"These figures obviously suggest that smoking reduces physical endurance, which is highly probable; but they must be qualified by the recollection that would-be athletes often eschew tobacco, while their weaker brethren take to it very readily."

Mud Floods

EXTRAORDINARY streams of mud often flow from our Western canyons.

They have ruined a good deal of property, and have occasionally caused loss of life.

Charles Fitzhugh Talman, in his Science Service feature *Why the Weather?* (Washington), thus quotes an expert on these floods:

"'Canyon floods of mud,' says Ivan E. Houk, who has made a special study for some years of the cloudbursts and cloudburst floods of the western United States, 'usually cause a roaring noise, which can be heard several miles in advance of the flood wave. It is due to the uprooting, breaking, and rolling along of large trees, the dislodging, grinding, and crashing of huge boulders, and the forming and breaking of débris dams along the path of the flood. Sometimes the floods of mud reach the mouth of the canyon in a series of waves only a few minutes apart; the first wave containing the coarsest and the greatest amount of débris, and the succeeding waves gradually becoming thinner and thinner, until finally the moving mass consists of ordinary flood water.

"'As soon as the flood-waves reach the plains they spread out in fan-shaped areas, depositing their loads of material in layers of gradually decreasing thickness. Sometimes the total deposits left by a single flood are as much as twenty feet deep, and cover areas extending as far as twenty miles from the mouth of the canyon.

"'Altho floods of mud are comparatively rare as regards a particular mountain canyon, they are frequent in the country as a whole. Hardly a week passes during the summer months when the newspapers in some part of the United States fail to tell about a flood of mud blocking a country highway, filling a city street, covering a mountain cabin, destroying a ranch, or killing unfortunate people who were caught unawares, and were unable to escape.'"

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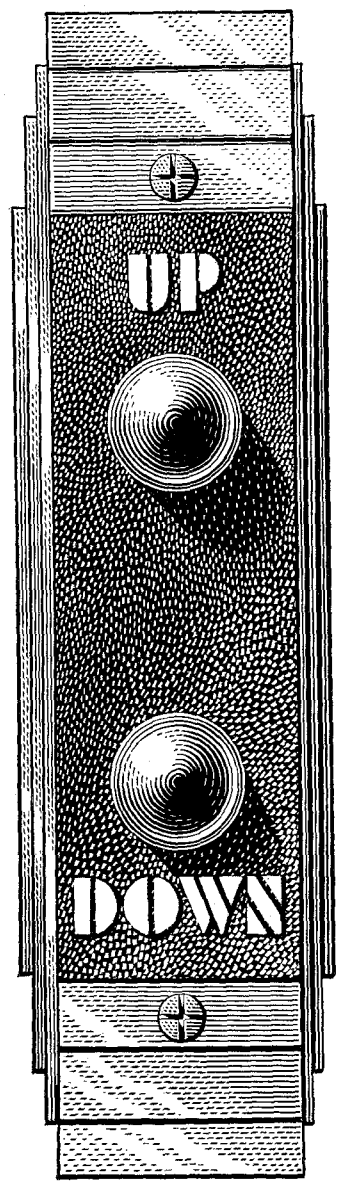

AS YOU GO UP AND DOWN . . .

WHAT do you think about in those few short seconds while the elevator speeds to your floor? Appointment at 9.30. Directors' meeting. Dictating to do. Foursome this afternoon. Thus your thoughts march by.

And all the while you're being sped steadily upward, yet hardly aware of it.

You don't have to pay attention to the elevator because it is new and modern and has as much regard for your feelings as a mother for her sleeping child. It almost tiptoes about its work. No banging of doors. No bucking or jerking. It climbs with an easy, pleasant rhythm — yet fast! Fast enough to rival the get-away of a nimble motor car.

It is our aim to make the elevator so free and easy in its movement and considerate of you that you won't even have to take notice of it. That is why Otis engineers have worked out devices which make the doors open and close quietly, the car start and stop gradually and seek the exact level of the landing, and many, many others. That is why the Otis research laboratories are busy today — searching for more and more ways to add to the comfort of elevator passengers.

These are modern days and the old-fashioned elevator with its jerky ride and its funny-looking fixtures is as much out of date as hoop skirts and bustles. It spoils the appearance of the building and gives unsatisfactory service. Many of these elevators can be modernized at extremely low cost because Otis parts are adaptable to the older models. If the elevators in your building seem out of date, ask the building owner if he knows about the Otis elevator modernization plan. You can assure him that whatever the problem, Otis engineers will produce an economical solution.

OTIS ELEVATOR COMPANY

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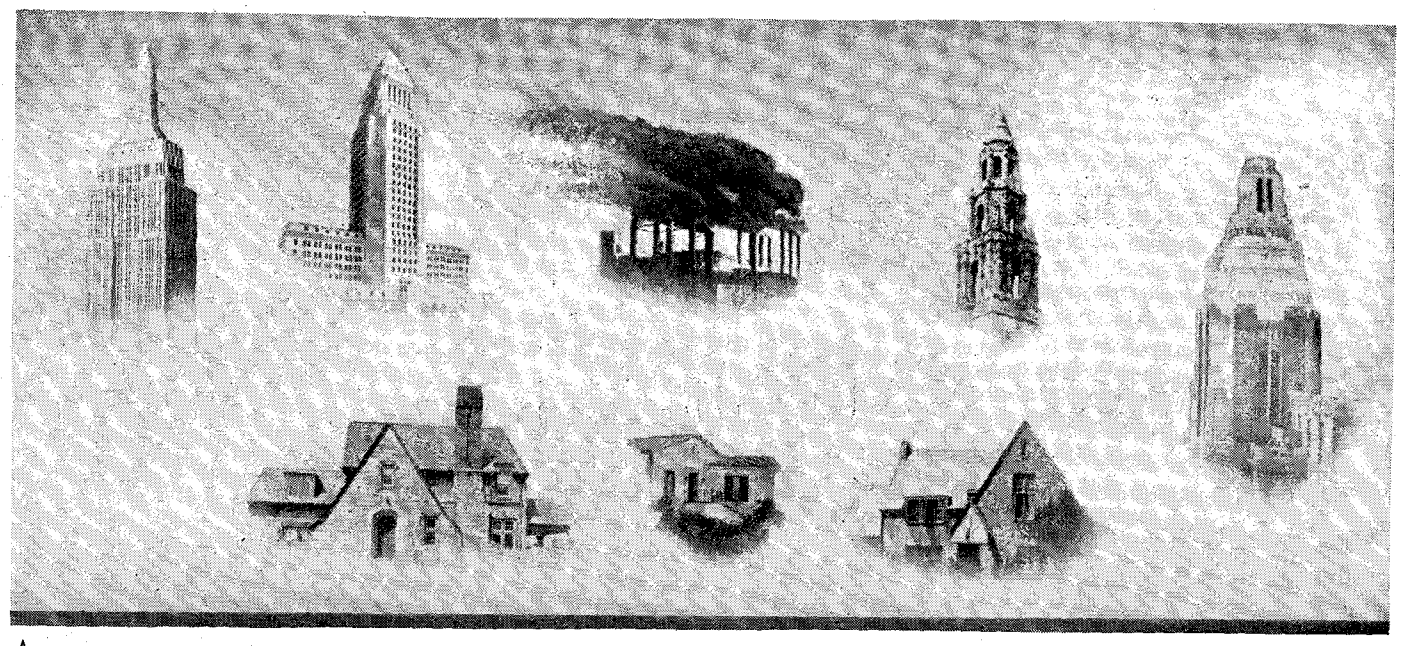

OUT OF THE MISTS OF DEPRESSION

Build And Remodel Now—You Should

A Survey of Standard Materials and Latest Developments in the Building Arts

ARE THE AMERICAN PEOPLE too complacent about their living conditions? Do they realize that the mass of the people are not even comfortable, and that altho we have admittedly the highest standard of living in the world, we have not even touched the surface of the great work that remains to be done to bring convenience, comfort, and taste into the average household?

An impressive and fast-moving drama in two scenes is being enacted around a basic industry. The time is the present. The place almost any city or town in the United States. The theme is building construction. The *dramatis personæ*, far-sighted, civic-minded people.

In the first scene one sees architects, builders, contractors, and skilled craftsmen putting up or reconditioning thousands of homes, commercial and government buildings, and beautifying the landscape of our communities. In the second scene one sees millions of middle-class homes—shoddy in construction, put up by unscrupulous builders, using material that will not endure, many of which are already in need of repair. Then sadly one beholds countless squalid structures in the slums of cities and on isolated farms—many even lacking in such simple necessities as running water, baths, gas and electric illumination.

Let us first envision the more cheerful picture. Let us see what those behind the scenes—the manufacturers of standard building material and equipment—are doing to speed the action of this impressive spectacle.

To visualize their work is one of the reasons for issuing THE LITERARY DIGEST Spring Building Section. To encourage people to build and remodel is another. To help them build with knowledge is the third and best reason.

In this section we describe briefly and in reference order the standard and the new products that are being created to enhance the livability and the artistic quality of the modern structure. You are shown the strides that have been made in such departments as air-conditioning, heating, ventilation, refrigeration and insulation and which, by their manifold improvements, have rendered old practises obsolete. And you are told who makes these products that create a new era in building materials, and from whom further information about their use may be obtained.

In all parts of our country, bankers, economists, industrial leaders, and chambers of commerce executives are unanimous in the conviction that now is the time to build and improve. Not only as an emergency measure which would give employment to people and to stagnant money, but as a prudent and sound investment; to develop and increase the industry and prestige of communities; to better the health of one's family; to create more wholesome and human social conditions.

ALL about us we see houses that are crying for repairs; neglected properties deriving income from rentals, and which must ultimately respond to the tenants' demand for present-day improvements. Factory additions; public buildings; all these can now be built or reconditioned at a lower cost and for receipt of fuller value than ever before. And what a wealth of ideas with which to collaborate! What advanced methods at one's command. What modern materials to enhance the serviceability of the structure.

In spite of the energetic building activity which 1932 promises to develop (an activity which, when measured in money, will amount to the huge sum of $3,420,000,000, according to authoritative estimates), it is astounding to discover how many countless thousands are still living in homes of shoddy construction and with obsolete appliances.

"The old-fashioned home may not be doomed, but the old-fashioned house is," aptly writes an observer in the New York *Times*.

The American people are a home-loving race and are quick to respond to the niceties of architectural design and interior improvement.

Gradually, but surely, the underlying spirit of unrest for better living conditions is coming to the fore; in the business man who seeks more modern office space; in the tenant renting an apartment; the manufacturer choosing a plant; in the family building a home. And to meet this healthy sign of progress the Government's Department of Commerce and the National Associations representing the building industry are carrying on highly constructive work.

THE Government, for example, is standardizing materials and educating people on sound building principles. The National Associations representing all branches of the industry are carrying on educational campaigns urging people to build better and to improve—telling them how to do it with knowledge and forethought.

The Spring Building Section is a necessary service to DIGEST readers, and comes at an opportune time. It is a quick and authoritative guide to modern materials and practises, to be helpfully used by those who are building or improving now, or to be filed for later reference by those who will do so in the future.

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Wood, Its Species, Grades, Uses

For the architect and builder, wood provides a versatile material. From roof to sill, for exterior and interior use, nature offers a large and appropriate selection. For the home owner, the esthetic values of wood and its durability when properly protected have made it highly regarded through centuries of experience.

Lumber is defined in "American Lumber Standards," issued by the U. S. Department of Commerce, as "the product of the saw and planing mill, not further manufactured than by sawing, resawing, and passing lengthwise through a standard planing machine, cross-cut to length and matched."

"All lumber is divided into two great groups, that from the softwoods and that from the hardwoods," states the National Committee on Wood Utilization, U. S. Department of Commerce. "The softwoods in general are the coniferous or needle-leafed trees . . . the hardwoods are the deciduous or broad-leafed trees. . . ."

These terms are used mainly as a matter of custom, for not all so-called softwoods are soft nor are all so-called hardwoods necessarily hard. . . .

"Long-leaf Southern pine and Douglas fir, for example, are much harder than poplar, basswood, etc., which are called hardwoods. . . . In general the softwoods are more commonly used for construction purposes and exterior and interior trim . . . while hardwoods are mostly used for interior finish, flooring, and furniture."

Softwood lumber is classified, according to American Lumber Standards, into: 1. *Structural material*, lumber graded on strength values and on use of entire piece—suitable for heavy timber construction in warehouses, bridges, roof trusses, etc.

2. *Yard lumber*, includes most of lumber for general building purposes, is less than 5 inches thick, and is graded on its general utility. It is divided into two grades, Select and Common.

Select grades: "A" and "B" select are suitable for "natural" finishes; "C" and "D" select for painted finishes.

Common grades: General utility lumber in a number of grades, especially suited for framing and covering buildings and for many other purposes.

3. *Shop or factory number*, intended for remanufacture into millwork and other products.

With the above explanation in mind, we may give the following list of woods most extensively used for building construction:

Broad-leafed or "Hardwoods"	*Conifers or "Softwoods"*
Beech	Cedar (eastern, and western red, and Port Oxford)
Birch (yellow)	Cypress (red, "Pecky," etc.)
Cherry (black, wild red)	Douglas fir
Chestnut	Fir ("white")
Gum (tupelo, red, sap)	Hemlock (eastern and west coast)
Maple (red, sugar)	Larch (western)
Oak (red, white)	Pines, Southern yellow (long-leaf, shortleaf, North Carolina, Arkansas soft)
Yellow poplar	Pines, White (Northern white, Idaho white, and sugar)
Walnut (black)	Pines (Ponderosa, and Norway)
	Redwood
	Spruce (Sitka, and eastern)
	Tamarack

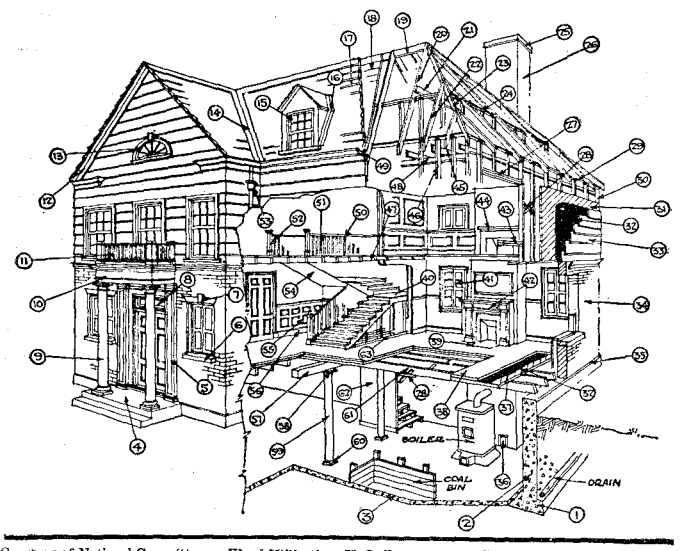
The United States Department of Commerce is devoting much attention to the use of wood for building purposes, etc. Its National Committee on Wood Utilization, in cooperation with industry, issues various publications on this subject, of technical and popular interest. Included in the latter are: "How to Judge a House," price, 10c; "You Can Make It for Profit," price, 10c; "Furniture," price, 20c; "House Insulation," price, 10c; "Light Frame House Construction" (in cooperation with Federal Board for Vocational Education), price, 40c; "Treated Lumber," price, 15c; "Grade-Marking of Lumber," price, 10c; "Seasoning, Handling and Care of Lumber" (Consumers Edition), price, 15c.

The Forest Service, U. S. Department of Agriculture carries on laboratory research and field investigations on properties and uses of American woods.

A recent development in the lumber industry, fostered by the Associated Leaders of Lumber and Fuel Dealers of America, embraces building to order "First National Homes," of certified materials, guaranteed workmanship and construction supervised by Architects Small Home Service Bureau, Inc. The National Homes Finance Corporation, owned by the industry, loans up to 75 per cent. of lot and house value, allowing owner fifteen years to pay in monthly sums of $8.44 per thousand borrowed, including principal and interest.

At the head of organizations sponsoring forest products is the National Lumber Manufacturers Association, with numerous subscribing organizations whose aim is "to improve the manufacture and grading of lumber and to conduct research and consumer education as to its qualities and proper uses."

We give a partial directory of lumber associations and manufacturers below. Special uses of wood as shingles, flooring, and trim treated under special classifications.



Courtesy of National Committee on Wood Utilization, U. S. Department of Commerce

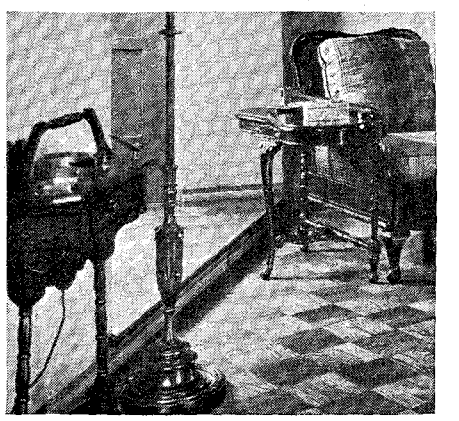
Parts of the House

1. Footing. 2. Foundation wall. 3. Basement floor. 4. Porch floor. 5. Pilaster. 6. Window sill. 7. Keystone. 8. Transom. 9. Column. 10. Entablature. 11. Balustrade. 12. Cornice. 13. Fan window. 14. Valley. 15. Dormer window. 16. Flashing. 17. Shingles. 18. Roof sheathing. 19. Ridge. 20. Common rafter. 21. Collar beam. 22. Jack rafter. 23. Hip rafter. 24. Purlin. 25. Chimney cap. 26. Chimney. 27. Header. 28. Bridging. 29. Plate. 30. Corner post. 31. Sheathing. 32. Building paper. 33. Siding. 34. Brick. 35. Water table. 36. Cleanout door. 37. Subfloor. 38. Finish floor. 39. Hearth. 40. Stair landing. 41. Casement window. 42. Fireplace. 43. Rough still. 44. Mantel. 45. Ceiling joists. 46. Studding. 47. Floor joists. 48. Ribbon. 49. Gutter. 50. Handrail. 51. Balustrade. 52. Newel. 53. Leader head. 54. Stair soffit. 55. Wainscoting. 56. Base. 57. Girder. 58. Column cap. 59. Basement column. 60. Column base. 61. Joist. 62. Partition. 63. Lath.

Leading Lumber Associations

American Walnut Mfrs. Association, Chicago.
Service Bureau, American Wood-Preservers' Association, Chicago.
*Arkansas Soft Pine Bureau, Little Rock, Ark.
Appalachian Hardwood Club, Cincinnati, Ohio.
*California Redwood Association, San Francisco.
Douglas Fir Plywood Mfrs., Seattle, Wash.
*Hardwood Manufacturers Institute, Memphis, Tenn.
Long Leaf Yellow Pine, Inc., New Orleans.
Florida-Louisiana Red Cypress Co., New Orleans, La.
Maple Flooring Manufacturers Ass'n, Chicago.
National Lumber Manufacturers Association, Washington, D. C.
National Hardwood Lumber Ass'n, Chicago.
*Northern Hemlock and Hardwood Manufacturers Ass'n, Oshkosh, Wis.
*Northern Pine Mfrs., Minneapolis, Minn.
*Oak Flooring Manufacturers Ass'n, Memphis, Tenn.
*Red Cedar Shingle Bureau, Seattle, Wash.
*Southern Cypress Mfrs. Ass'n, Jacksonville, Fla.
Southern Oak Flooring Industries, Inc., Little Rock, Ark.
*Southern Pine Association, New Orleans, La.
*West Coast Lumbermen's Ass'n, Seattle, Wash.
*Western Forestry and Conservation Ass'n, Portland, Ore.
*Western Pine Ass'n, Portland, Ore.

*Members of, or affiliated with National Ass'n.



Courtesy E. L. Bruce Company

Oak Parquetry

Some Lumber Manufacturers

Blodel-Donovan Lumber Mills, Everett, Wash.
E. L. Bruce Co., Memphis, Tenn.; hardwood flooring.
Brooks-Scanlon Lumber Co., Foley, Fla., and Bend, Ore.
Camp Manufacturing Co., Franklin, Va.
Carnahan Mfg. Co., Loogootee, Ind.; veneered doors, millwork.
Carter Bloxonend Flooring Co., Kansas City, Mo.; "Bloxonend" flooring.
Cellized Oak Flooring Inc., Memphis, Tenn.; Cellized floor blocks and strips.
Cromar Co., Williamsport, Pa.; Cromar oak flooring.
Cummer Cypress Co., Jacksonville, Fla.
W. D. Crooks and Sons, Williamsport, Pa.; hardwood veneered doors.
Crossett-Watzek-Gates, Chicago, Ill.
Curtis Companies Service Bureau, Clinton, Iowa; Millwork.
Dierks Lumber and Coal Co., Kansas City, Mo.
Deer Park Lumber Co., Deer Park, Wash.
Douglas Fir Plywood Co., Seattle, Wash.; Plywood.
Ernest Dolge, Inc., Tacoma, Wash.; structural Douglas fir and specialty stock.
Eastman, Gardiner and Co., Laurel, Miss.
Evanston Sound Proof Door, Evanston, Ill.
Exchange Sawmills Sales Co., Kansas City, Mo.
Flexwood Company, Chicago, Ill.; "Flexwood."
Frost Lumber Industries, Shreveport, La.
Great Southern Lumber Co., Bogalusa, La.
Hammond Lumber Co., San Francisco, Calif.; redwood.
Hardwood Products Corp., Neenah, Wis.; doors.
Hasbrouck Flooring Co., New York City; parquetry, etc.
Edward Hines Lumber Co., Chicago, Ill.
Indiana Quartered Oak Co., New York; "Philippine Indoako."
Jennison-Wright Co., Toledo, O.; "Kreolite" wood floor blocks.
Kaul Lumber Co., Birmingham, Ala.
Kirby Lumber Co., Houston, Texas.
Long-Bell Lumber Co., Kansas City, Mo.; lumber, oak flooring and creosoted products.
McGoldrick Lumber Co., Spokane, Wash.
Oregon-American Lumber Co., Portland, Ore.
The Pacific Lumber Co., San Francisco, Calif.; redwood lumber.
Peavy-Wilson Lumber Co., Shreveport, La.
Pickering Lumber Co., Kansas City, Mo.
Ritter, W. M., Lumber Co., Columbus, Ohio; hardwood flooring.
Roddis Lumber and Veneer Co., Marshfield, Wis.; doors, panels, plywood.
Shevlin-Carpenter-Clarke, Minneapolis, Minn.
Trimpak Corp., N. Y. City; "Trim-pak."
Union Lumber Co., San Francisco, Calif.; redwood.
Warren Ross Lumber Co., Jamestown, N. Y.; cherry lumber.
Weyerhaeuser Forest Products, St. Paul, Minn.; "Four-square Lumber."
Winton Lumber Co., Minneapolis, Minn.
Wheeler, Osgood Co., Tacoma, Wash.; "Laminex" doors.
Wilson Cypress Co., Palatka, Fla.
Wood Mosaic Co., Inc., Louisville, Ky.; parquetry, etc.

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Cement Products

So diverse have become the uses of cement and cement products in all classes of buildings that concrete may be now applied to almost every part of the structure from foundation to roof.

Two kinds of cement have special uses, Portland and Masonry.

Portland Cement is the result of heating almost to melting point limestone and other raw materials. To this clinker is added gypsum, and the whole ground to powder.

Concrete consists of a mixture of Portland Cement, an aggregate such as sand and crusht rock, and water. Coloring materials may be added.

Courtesy Johns-Manville Corporation

Rigid Asbestos Shingles

Concrete is used in poured form for foundations, floors, walls, making hollow tile block, roofing tile, stucco, etc. Cement enters into the manufacture of many other products, such as asbestos shingles and other roofings, cast stone, etc.

Masonry Cement is produced by burning lumps of natural cement rock, grinding the resultant clinker to powder sufficiently fine to pass 90 per cent. through a screen of 200 mesh, with addition of materials which control the set. Water-proofing ingredients are often incorporated.

Masonry Cement to which lime, sand or other ingredients are added, is used for brick, stone, tile and terra-cotta mortar but not for concrete.

The use of lime in mortar gives the mixture water-proofing qualities, contributes strength, adhesiveness, elasticity, and prevents efflorescence.

"Lime is used in concrete for foundations, basement floors, and other home-building, or in the structural frame of larger buildings," says the National Lime Association, Washington, D. C. "Lime is a valuable addition to concrete because of the fact that it increases the workability of the mass and facilitates placing concrete, especially in thin or angular sections or around the steel in reinforced concrete construction."

Concrete under normal conditions is watertight. With exceptional water or moisture surroundings it may receive special treatment such as hot tar or asphalt, or have water-proofing materials added. For surfacing cement floors there are also hardeners which resist wear and prevent dusting up.

Standard specifications and methods for concrete and cement products construction are promoted by the Portland Cement Association, Chicago; the American Standards Assn., New York; the American Society for Testing Materials, Philadelphia; the Underwriters' Laboratories, New York; the American Concrete Institute, Detroit; the Concrete Masonry Assn., Milwaukee; the Haydite Manufacturers Assn., Kansas City, Mo.; National Building Units Corp., Philadelphia, Pa. (guaranteeing high quality cinder units), and also by The National Lime Association and Finishing Lime Association of Toledo, Ohio.

Cement Manufacturers

Hundreds of plants are engaged in the manufacture of Portland Cement and numerous others in production of Masonry Cement. We list representative concerns.

Aetna Portland Cement Company, Detroit, Mich.
Allentown Portland Cement Company, Catzsauqua, Pa.
Alpha Portland Cement Company, Easton, Pa.
Ash Grove Lime & Portland Cement Co. of Nebraska, Kansas City, Mo.
Calaveras Cement Company, San Francisco, Cal.
California Portland Cement Co., Colton, Cal.
Cumberland Portland Cement Co., Cowan, Tenn.
The Glens Falls Portland Cement Co., Glens Falls, N. Y.
Hercules Cement Corporation, Philadelphia, Pa.
Hermitage Portland Cement Co., Nashville, Tenn.
Huron Portland Cement Company, Detroit, Mich.
Idaho Portland Cement Company, Inkom, Idaho..
International Cement Corporation, New York.
Lawrence Portland Cement Company, New York.
Lehigh Portland Cement Co., Allentown, Pa.
Lone Star Cement Company (International Cement Corporation) with branches at Birmingham, Ala.; Indianapolis, Ind.; Kansas City, Mo.; Albany, N. Y.; New Orelans, La.; Philadelphia, Pa.; Dallas, Texas; and Norfolk, Va.
Louisville Cement Company, Louisville, Ky.
Marquette Cement Manufacturing Company, Chicago, Ill.
Medusa Portland Cement Co., Cleveland, Ohio.
Missouri Portland Cement Co., St. Louis, Mo.
Nazareth Portland Cement Co., Nazareth, Pa.
North American Cement Corporation, New York.
Northwestern Portland Cement Co., Seattle, Wash.
Northwestern States Portland Cement Company, Mason City, Iowa.
Olympic Portland Cement Company, Ltd., Bellingham, Wash.
Oregon Portland Cement Company, Portland, Ore.
Pacific Portland Cement Company, San Francisco.
Peerless Portland Cement Company, Detroit, Mich.
Pennsylvania-Dixie Cement Corp., Nazareth, Pa.
Riverside Cement Company, Los Angeles, Cal.
San Antonio Portland Cement Company, San Antonio, Texas.
Signal Mountain Portland Cement Company, Chattanooga, Tenn.
Southwestern Portland Cement Company, Los Angeles, Calif.
Standard Portland Cement Co., Cleveland, Ohio.
Superior Portland Cement Company, Seattle, Wash.
Trinity Portland Cement Company, Dallas, Texas.
Universal Atlas Portland Cement Company, Chicago, Ill.
Volunteer Portland Cement Co., Knoxville, Tenn.
Yosemite Portland Cement Corp., San Francisco, Cal.

Manufacturers of Masonry Cement

The Carney Company, Mankato, Minn.
Century Cement Corporation, New York.
Hy-Test Cement Company, Philadelphia, Pa.
Louisville Cement Company, Louisville, Ky.

Waterproofing, Hardening, Coloring

Adensite Company, Inc., New York; "Adensite" (hardener), "Adaflint" (hardener), "Purtone" (coloring), "Clerseal" (waterproofing).
American Tripoli Company, St. Louis, Mo.; "Barnsdall Admix for Concrete."
The Antihydrine Company, New Haven, Conn.; Antihydrine damp proofing, stain proofing.
Anti-Hydro Waterproofing Company, Newark, N. J.; "Anti-Hydro" waterproofing, hardener, dust proofing.
Aquabar Waterproofing Products, Philadelphia; water and damp proofings, floor hardeners.
Asphalt Products Company, Inc., Syracuse, N. Y.; "Hydro-Proof" waterproofing products.
Billings-Chapin Company, Cleveland, Ohio; cement floor paint, etc.
Building Chemicals Corp, New York; water, damp proofing.
Caffall-Cornman Corp, New York; waterproofing and dampproofing materials.
Phillip Carey Co., Cincinnati, Ohio; waterproofing and dampproofing materials.
Central Ironite Waterproofing Co., Chicago; "Ironite" waterproofing.
Ceresit Waterproofing Corporation, Chicago; water, damp proofings, hardeners, coatings.
Clinton Metallic Paint Co., Clinton, N. Y.; Clinton mortar and cement colors, etc.
Colorless Dampproofing Inc., New York and seven other cities: engineers and contractors.
Concrete Service Corp., New York; "Con-Tex" surfacing.
Elaterite Paint & Mfg. Co., Des Moines, Iowa; waterproofing, bonding materials.
Euclid Chemical Co., Cleveland, Ohio; hardeners, waterproofing.
Everseal Manufacturing Co., Inc., New York; water, damp proofing, hardeners.
Flintkote Co., New York; "Flintkote Protection."
Headley Emulsified Products Co., Philadelphia, Pa.; protective coatings.
A. C. Horn, Long Island City, N. Y.; waterproofings and floor treatments.
Hydrolithic Waterproofing Co., Inc., Pittsburgh, Pa.; "Hydrolithic."
Hydroseal Waterproofing Co., Philadelphia, Pa.; "Hydroseal," etc.
Johns-Manville, New York; "Celite" and waterproofings.
H. B. Fred Kuhls, New York; waterproof coatings.
Lewis Asphalt Engineering Corp., New York; water protection.
O. H. Mann & Co., Inc.; Kansas City, Mo.; waterproofing specialists.
The Master-Builders Company, Cleveland, Ohio; protective specialties.
Medusa Portland Cement Co., Cleveland, Ohio; Medusa Portland Cement Paint, waterproofing powder.
Geo. H. Mephan & Co., East St. Louis, Ill.; "Star Mortar Colors."
Minwax Co., Inc., New York; Minwax products.
Mitchell-Rand Dampproofing Co., New York; "M-R Protective Coatings."
National Waterproofing Company, Boston; waterproofing engineers, contractors.
The Obelisk Waterproofing Company, New York; "Caffall Process" preservation.
Pecora Paint Co., Inc., Philadelphia, Pa.; Pecora mortar, stains, waterproofing compound, etc.
Portland Cement Assn., Chicago.
Solvay Sales Corporation, New York; alkalies and chemical products.
Sommers & Co., Ltd., New York; "Permantite."
L. Sonneborn Sons, Inc., New York; floor treatments, waterproofing products, paints.
Sullivan Co., Memphis; cement stains, hardeners, etc.
Tech Brothers, New York; technical paints and waterproofing compounds.
The Truscon Laboratories, Detroit; integral waterproofings, floor hardeners.
Vortex Manufacturing Co., Cleveland; pre-plastering treatments.
The Waterproofing Co., New York; engineers and contractors.
Western Waterproofing Co., New York; waterproofing contractors.
C. K. Williams and Co., Emeryville, Calif.; "Anchor Brand" mortar colors.

See under "Steel" for reinforcement products.

Brick, Versatile and Enduring

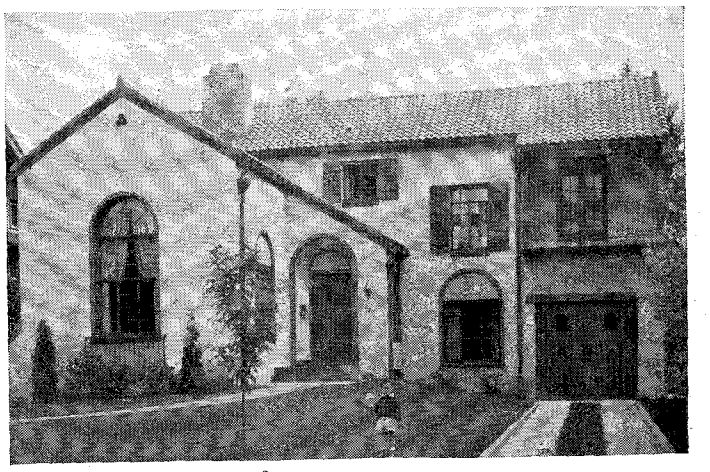
Brick fulfils essential building requirements in that it is enduring for centuries with almost negligible up-keep cost; it has high fire resistance; it is sound absorptive; it offers refined adornment and is economical.

Two general varieties enter building construction, common and face brick. The interests of each class are fostered by national associations.

The Common Brick Manufacturers Association of Cleveland, Ohio, promote the interests of common brick. The American Face Brick Association of Chicago serves the interests of face brick.

Common brick "have a natural surface not treated to produce special effects in color or texture of the individual brick," but the common brick industry has introduced artistry into its product. This has been achieved through variety of color tones, various forms of skintled, or irregular brick-work, the use of clinker brick, and various forms of bonds and joints.

Face brick "may be rough or smooth, uniform in color, or variegated, but it is manufactured with the intention of producing a desired architectural effect. "Whether your taste is for warmth and color, or for quiet dignity, every effect that is desirable may be had in face brick," says the American Face Brick Association.



Courtesy of Medusa Portland Cement Company

Stucco contributes to this pleasingly original Wilmette (Ill.) Home

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• • • If the Dentist brushed your teeth twice a day

• • • you'd expect them to stay in perfect condition. Use his modern methods in your own care of your teeth!

You share with your dentist the responsibility for keeping your teeth sound and healthy. He can't be on hand to clean your teeth every day. But in your own daily dental care you can be just as up to date as he is.

Squibb Dental Cream cleans teeth the modern way, by a scientifically balanced formula.

Before the scientists in the Squibb Laboratories produced this dentifrice they resolved that it should be as safe and as effective as modern ideas of oral hygiene require.

They spent years in research and consultation with leaders of the dental profession, and found dentists everywhere approving and recommending the scientifically balanced formula created by Squibb. That is why dentists have chosen Squibb Dental Cream—exceptionally smooth, pure and palatable—and employed it.

Squibb's does its work thoroughly, pleasantly and safely. It contains no grit or astringent—nothing that can injure tooth-enamel or the tender tissues of the mouth. Its gentle polishing action makes the teeth gleam beautifully. And it is so refreshing to the taste that every one enjoys using it.

Get a tube of Squibb's today, and back up your dentist in giving your teeth modern care.

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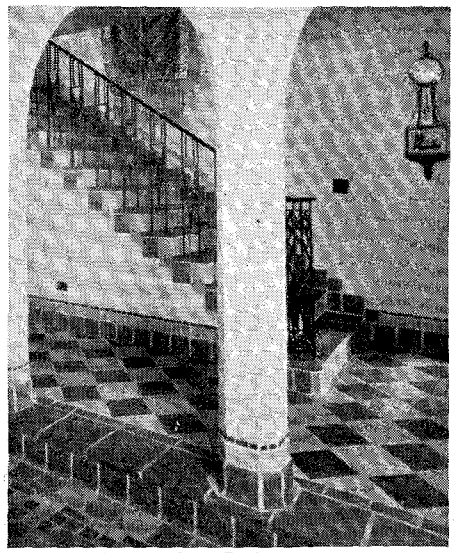
Brick in house construction may be used in solid or hollow walls, and also as a veneer over hollow-tile or frame construction. There are also infinite opportunities for using brick for fireplaces, mantels, inside walls, verandas, steps, and walks.

The method of laying brick is termed the bond. Its purpose is for appearance and as a means of holding the sections of wall together. Fundamental bonds are English, Flemish, and Running or Stretcher, but each is subject to numerous variations.

Brick offers attractive opportunities for modernizing and protecting old frame houses by facing with this material.

The reasonable cost of brick is often misunderstood by builders.



Courtesy of United States Quarry Tile Company

Ceramic Tile

Representative Brick Manufacturers

American Enameled Brick & Tile Co., of New York; enameled and porcelain brick.
Belden Brick Co., Canton, Ohio; Belden brick.
Fiske & Co., Inc., of Boston; face brick.
Finzer Bros., Clay Co., "Forestblend" Finzer Face Brick; Sugarcreek, Ohio.
Greendale Brick Co., of Logan, Ohio; "Greendale" face brick.
Hanley Company, Bradford, Pa.; face brick.
Hydraulic-Press Brick Co. of St. Louis; "Hy-Tex."
Ketcham, O. W., Phila., Pa.; face, enamel, etc.
Medal Brick & Tile Co., Cleveland, O.; face brick.
Metropolitan Paving Brick Co., Canton, Ohio; "Metro" all purpose face brick.
Old Flagging Brick Co., Salem, Va.; face brick.
Sayre & Fisher Brick Co., Sayreville, N. J.; Shingle Face, etc.
Wyandot Clay Products Co., Upper Sandusky, Ohio; face brick.

Structural Tile

Structural tile in a variety of shapes is manufactured from clay in rough form to receive exterior surfacing and also in glazed colors for interior and exterior walls. Cast concrete and cinder concrete blocks are also provided and partition and furring tile made of gypsum.

Structural Hollow Tile Manufacturers—Cinder Units

Anness Hollow Tile & Clay Co., Woodbridge, N. J.; Anness Hollow Tile.
P. Bannon Pipe Company, Louisville, Ky.; hollow tile fireproofing and lidded pipe.
Certain-Teed Products Corp., New York; gypsum partition and furring tile.
Clay Products Co., Brazil, Ind.
The Heath Cube Service, Inc., Tacoma, Wash.; service organization for hollow tile
Kraftile Company, Niles, Calif.; Kraft Enamel Hollow Tile.
Henry Maurer & Son, New York; "Raritile" blocks.
Nailcrete Corp., New York; nailable cinder concrete blocks.
National Fireproofing Company of Pittsburgh, Pa.; "Natco" hollow tile.
National Stone-Tile Corporation, San Francisco, Calif.; "Stone-Tile."
National Building Units Corporation of Philadelphia; Straub and Bo patents.
Structural Gypsum Corp., Linden, N. Y.; "Gypsteel."
Raritan Hollow Tile Corporation, New York; "Raritile."
United States Gypsum Co., Chicago; cinder concrete foundation and wall bearing blocks, etc.
Whitacre-Greer Fireproofing Co., of Waynesburg, Ohio; hollow tile, etc.

Artistry in Terra Cotta

Architectural terra cotta for clothing the exterior of buildings offers to the architect a selection of artistic materials in terra-cotta masonry units for decorative treatments. These products are supplied in lustrous glazes, soft finishes, natural finishes and varied colorings. Full information relative to terra cotta is supplied by the National Terra Cotta Society of New York.

Some Manufacturers Are

Atlantic Terra Cotta Co., Atlanta, Ga.
N. Clark & Sons, San Francisco, Calif.
Conkling-Armstrong Terra Cotta Co., Philadelphia, Pa.
Corning Terra Cotta Co., Inc., Corning, N. Y.
Eastern Terra Cotta Co., New York.
Federal Seaboard Terra Cotta Corp., New York City.
Galloway Terra Cotta Co., Philadelphia, Pa.
Gladding, McBean & Co., San Francisco, Calif.
Kansas City Terra Cotta & Faience Co., Kansas City, Mo.
O. W. Ketcham, Philadelphia, Pa.
The Winkle Terra Cotta Co., Century Bldg., St. Louis, Mo.

Steel the Omnipotent

"A little over fifty years ago," says the American Institute of Steel Construction, New York, "Henry Bessemer discovered a commercial way of producing steel in volume."

"In 1934 we shall celebrate the fiftieth anniversary of the use of rolled steel shapes and the erection of the first American sky-scraper.

"During these fifty years the whole complexion of our civilization has been changed. The commercial production of steel made possible the steel engine, and resulted in the building of our great transportation systems.

"Not alone has steel given us an entirely new line of tools, but we have found that it gives us the best possible construction material. Because it is stronger than any other building material we can span greater distances and build larger buildings and bridges. Because it is the most perfectly elastic and homogeneous we can design more accurately and more safely with it.

"Structural steel is an industry in itself, and about 20 per cent. of the steel consumed in the United States goes into engineering projects with which the steel constructor is engaged. He takes the structural shapes and plates as they come from the rolling mill, cuts, punches, drills, rivets and erects them into the building or the bridge. In that process he engages the finest engineering talent the country can produce. . . .

"Not alone in bridges and buildings are we seeking to accomplish new records. Structural steel has unlimited possibilities. There is no material in commercial use so strong, nor one which will occupy so little space for the weight it will carry."

Continued progress is being made in the methods of steel construction. Among the most important is steel flooring. "By the use of steel plates and beams," says Lee H. Miller in *Metalcraft*, "it is possible to develop a welded steel floor that will be better than any other floor that has been used before, and will stand every service to which the floor may be subjected."

There is also a welding process with much discussion regarding its advantages in comparison with riveting.

The sky-scraper which was the origin for vacuum cleaning, steam heating and other modern-home necessities is now pointing the way toward the era of steel home construction.

As Thomas J. Foster writes in *The Iron Age:* "The present waste in home-building, which the Department of Commerce sets at 53 per cent., can be eliminated by the skilful assemblage of the right materials. The importance of the use of steel in relation to the private residence is in proportion to its ability to make possible an improved construction."

For home-building several types of steel framing, flooring, etc., have been designed and tried out, fabrication being accomplished with bolts or by the welding process.

Leading American Steel Mills

United States Steel Corporation
Bethlehem Steel Corp.
Jones & Laughlin Steel Corporation
American Rolling Mills Company
Inland Steel Company
Scullin Steel Company
Lukens Steel Company
Granite City Steel Company
Republic Steel Company

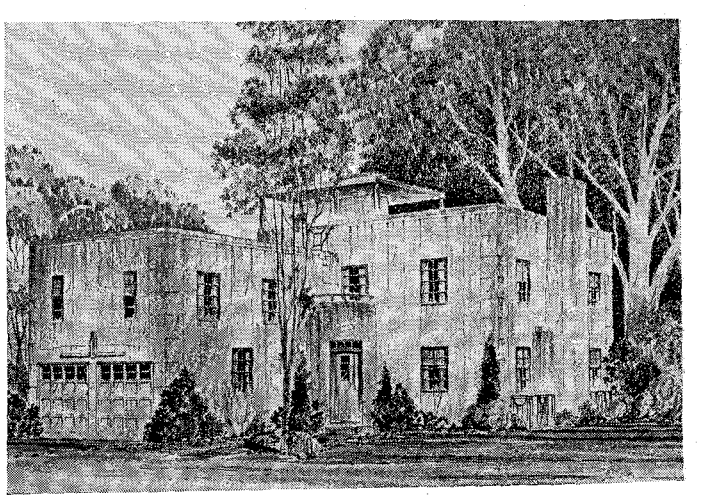
Representative Steel Constructors

Scores of steel constructors are loc ted throughout the country. We list below just a few representative concerns.

H. H. Robertson Co., Pittsburgh, Pa.
The Ingalls Iron Works, Co., Birmingham, Ala.
Joseph T. Ryerson & Son, Inc., Chicago, Ill.
Consolidated Steel Corp., Ltd., Los Angeles, Calif.
Judson-Pacific Company, San Francisco, Calif.
Duffin Iron Co., Chicago, Ill.
Mississippi Valley Structural Steel Co., Decatur, Ill.
Kansas City Structural Steel Co., Kansas City, Kans.
The New England Structural Co., Boston, Mass.
Eastern Bridge & Structural Co., Worcester, Mass.
Minneapolis-Moline Power Implement Co., Minneapolis, Minn.
St. Louis Structural Steel Co., St. Louis, Mo.
Stupp Bros., Bridge & Iron Co., St. Louis, Mo.
Omaha Steel Works, Omaha, Nebr.
The Mt. Vernon Bridge Co., Mt. Vernon, Ohio.
Muskogee Iron Works, Inc., Muskogee, Okla.
J. B. Klein Iron & Foundry Co., Oklahoma City, Okla.
Lehigh Structural Steel Co., Allentown, Pa.
McClintic-Marshall Corp., Bethlehem, Pa.
Belmont Iron Works, Philadelphia, Pa.
The Phoenix Bridge Company, Phoenixville, Pa.
The American Bridge Company, Pittsburgh, Pa.
Nashville Bridge Company, Nashville, Tenn.
Austin Brothers, Dallas, Tex.
Mosher Steel & Machinery Co., Dallas, Tex.
Wallace Bridge & Structural Steel Co., Seattle, Wash.
Wheeling Structural Steel Co., Wheeling, W. Va.
Worden-Allen Company, Milwaukee, Wis.
Wisconsin Bridge & Iron Co., Milwaukee, Wis.

Concrete Reinforcement Products

American Steel and Wire Company, Chicago.
Berger Manufacturing Company, Canton, Ohio.
Concrete Engineering Co., Chicago, Ill.
Consolidated Expanded Metal Co., Wheeling, W. Va.
Conver Steel & Wire Co., Inc., New York.
Goldsmith Metal Lath Co., Cincinnati, Ohio.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Kalman Steel Co., Chicago, Ill.
Mahon Company, R. C., Detroit, Mich.
Mitchell Tappen Company, New York.
National Steel Fabric Company, Pittsburgh, Pa.
Rail Steel Bar Assn., Chicago, Ill.
Republic Fireproofing Co., Inc., New York.
Rivet-Grip Co., Cleveland; Ohio.
Joseph T. Ryerson & Son., Inc., of Chicago, Ill.
Truscon Steel Company of Youngstown, Ohio; concrete reinforcement.
U. S. Gypsum Co., Chicago, Ill.
Wickwire Spencer Steel Company of New York.



Courtesy American Rolling Mill Company

A Frameless Steel Residence

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Stone for Building

He who builds with stone builds for all time. It betokens substance, dignity, and good taste.

Good practise permits stone to be used as solid masonry and as veneer over frame, brick, or tile. There are artistic possibilities also in using stone in combination with other materials such as brick, terra cotta or wood. A wide selection is available.

Limestone, easily workable, and having a color range from blue, green, yellow, pink, red, and black is in extensive use for all types of buildings from residences to skyscrapers. The Indiana Limestone Institute of Bedford, Indiana, has established standards of grading, classification, etc., for limestone from Indiana quarries.

Granite has great strength, durability, variety of colorings and finishes, as a complete structural material and as stone veneer and rubble ashlar material.

The National Building Granite Quarries Association Inc., of Boston, with nearly a score of leading manufacturers of granite in Connecticut, Vermont, Maine, North Carolina, New Hampshire, Massachusetts, Rhode Island and elsewhere, says:

"The finishes best adapted for granite veneer include polished, honed, rubbed (fine to coarse), and sawed and sand-blasted." The veneer may be backed with brick, local stone, hollow tile, concrete, or frame.

In the beautiful hills around Barre, Vermont, are huge quarries from which comes the perfect stone that has given to this city the widely-known title—Granite Center of the World. While some of this stone is used for general business purposes, the soft tones, adaptable to all types of finishes and the endurance qualities of Barre Granite, fit it particularly for use in memorials—from elaborate mausoleums down to less pretentious monuments.

Barre is thus the headquarters for the Granite Manufacturers and Quarriers Association. Included in its membership are leading quarriers, together with practically all of the manufacturers of the district, numbering more than one hundred firms. The purpose of the Association is to promote cooperation between members and memorial dealers, and to make the superiority of Barre Granite even better known.

In Vermont hills is also quarried the even-textured blue-gray "Rock of Ages" granite by the Rock of Ages Corporation at Barre.

Valuable deposits of granite are found in the Mt. Airy region of North Carolina. The Granite Manufacturers Association of Mt. Airy members include leading manufacturers in this district.

Sandstone is largely used as a facing on frame or hollow tile construction with four-inch beds in random ashlar design. One producer offers it in standard brick sizes. The artistic possibilities of sandstone lie in its varied color range of golden, buff, brown, gray, purple, and pink hues and in its choice of finishes.

Marble for exterior and interior construction is, as the National Association of Marble Dealers of Cleveland says:

"One of the most distinguished of materials. It is always in good taste. . . . It is obtainable in a great number of beautiful colors ranging from spotless white to ebony black. . . . It endures almost indefinitely. The initial cost has never been much higher than that of corresponding materials."

Domestic marble includes a variety of texture colorings from pure, snowy white to bluish and greenish stone, white frequently mottled or veined with darker hues.

Imported marbles include brilliant reds, blacks, blue-blacks, onyx and flecked hues.

Bluestone is supplied in various finishes and lends itself as exterior trim for various forms of masonry construction with possibilities for interior staircases, floors, etc.

Soapstone, quarried extensively in Virginia under the trade-name of "Alberene

Palms sway beside the cool Pacific

A VACATION opportunity that *can't* be repeated during your lifetime: everything that Southern California normally offers in thrilling summer play . . . *and* the Olympic Games!

The world will be watching. Athletes and notables from everywhere are coming. And Southern California, after ten years of preparation, is ready.

Finals in all events . . . 135 separate contests . . . will be held from July 30 to August 14. Be here then if you can, but come some time this summer, for festival will reign all season, and this is the year you need a *real* vacation most.

Every vacation joy . . . low costs

Here are clear, rainless days...nights under blankets . . . and *every* essential for perfect play: The blue Pacific for swimming, sailing, fishing or basking on the sand . . . gay resort islands near the shore. Crystal lakes in mighty, forested mountains. Golf and every sport in exciting settings. Palms, orange groves, ancient Spanish Missions and nearby Old Mexico. Hollywood's scintillating night life.

Pasadena, Long Beach, Glendale, Beverly Hills, Pomona, Santa Monica and other celebrated resort cities are short, scenic drives from big, hospitable Los Angeles, center of this whole world playground.

By rail (new low summer fares) from most points in the country, even a two-weeks vacation gives you at least eleven days actually here. And costs while here need be no more than those of an ordinary vacation. For in this year 'round vacationland you escape the "peak prices" necessary in short-season resorts. We prove these statements in a remarkable new book which the coupon below brings you free.

FREE NEW 64-PAGE VACATION BOOK OLYMPIC GAMES INFORMATION

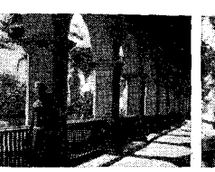
The book outlines, day by day, a summer (also a winter) visit to Southern California, including over 100 interesting gravure photographs, map, information about routes, *itemized daily cost figures*, etc. . . . perhaps the most complete vacation book ever published. With it we will send, also free, another book giving Olympic Games details and schedules, with ticket application blanks. Send the coupon today. Start planning now!

(If you wish *another* beautiful book, "Southern California through the Camera," include 10 cents in stamps.)

Come for a vacation you'll never forget. Advise anyone not to come seeking employment lest he be disappointed, but for the tourist the attractions are unlimited.

Scenic grandeur

Gay night life



Old Spanish Missions

Movie making

the Olympic Games in SOUTHERN CALIFORNIA

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☐ "Southern California through the Camera" (10c enclosed). Also send *free* booklets about counties checked below:

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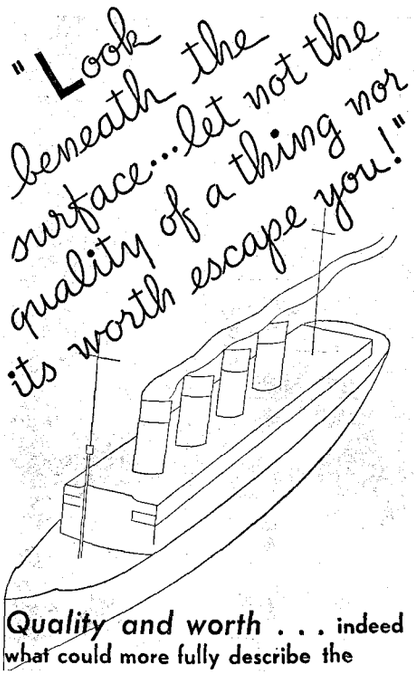

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Room rates, drastically reduced, are printed on an authentic rate sheet and are definitely maintained.

And in the *Aquitania*, you will be among those travellers who appreciate and accept as their due the traditional atmosphere and refinements of Cunard management and service. Delightful people to meet . . . congenial and interesting people to travel with.

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$540 FIRST CLASS UP $250 TOURIST UP

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CUNARD

Stone," provides an indestructible stone for spandrils, trim, veneer, ashlar, and for interior purposes such as laundry tubs, shower compartments, sinks, stairs, mantels, flooring, fireplaces, etc.

Slate, the use of which is fostered by the National Slate Association of Philadelphia, besides its use for roofing, is applicable with its pleasing colorings and indestructible qualities to walls, floors, stairs, exterior wall trim, and flagging.

Native stone has been for centuries a favorite and desirable building material.

Cast stone is offered in many forms and color effects. It is defined by the American Concrete Institute of Detroit, Mich., as follows:

"The term 'cast stone' shall be understood to mean a building stone manufactured from Portland cement concrete, precast, and set in place as trim or facing on or in buildings and other structures." The possibilities of cast stone as a medium for the application of color to architecture are endless."

Among the artificial stones, synthetic travertine is supplied in numerous colors.

Stone Manufacturers

Sandstone

Briar Hill Golden Tone Sandstone; The Briar Hill Stone Co. Glenmont, Ohio.
Sciota Stone; The Taylor Stone Co., McDermott, Ohio.
Aquia Colonial Stone; Geo. Washington Stone Corp., Washington, D. C.

Limestone

Victor Oolitic Stone Co., Bloomington, Ind.; Victor Bluff, Ind. Limestone.
Bloomington Limestone Co., Bloomington, Ind.; Indiana Limestone.
Indiana Limestone Co., Bedford, Ind.; Indiana Limestone.
St. Paul Stone Quarries Co., St. Paul, Ind.; "St. Paul Stone."
Shawnee Stone Company, Bloomington, Ind.; Indiana Limestone.

Marble

National Association of Marble Dealers, 721 Rockefeller Bldg., Cleveland, Ohio.
Appalachian Marble Co., Inc., Knoxville, Tenn.; Appalachian marbles.
Carthage Marble Corporation, Carthage, Mo.; Ozark gray marble.
Consolidated Marble Corp., Philadelphia; imported marbles.
Georgia Marble Co., Tate, Ga.; Georgia marbles.
Vermont Marble Co., Proctor, Vt.; interior, exterior marbles.

Cast Stone and Artificial Stone

R. Guastavino Co., New York, Montreal,
G. E. Walter, New York.
Cast Stone Institute, Chicago.
Decorative Stone Co. (Dextone), New Haven.
The Geo. Rackle & Sons Co. (art stone and concrete roof tile), Cleveland, Ohio.
American Kerament Corporation (Kerament cold glazed cast stone), New York.

Bluestone

Genessee Valley Blue Stone; American Blue Stone Co., New York.

Quartzite

Crab Orchard Stone Company, Nashville, Tenn.
J. G. Robinson; Robinson Cleftstone and Flagstone, Philadelphia, Pa.

Granite

National Building Granite Quarries Association, Boston, Mass.
Granite Manufacturers and Quarries Association, Barre, Vermont.
Granite Manufacturers Association of Mt. Airy, Mt. Airy, N. C.
American Black Granite Company, Ashland, Wis. (Mellen black granite).
Cold Spring Granite Co., Inc., Cold Spring Minn. (Cold Spring granites).
Rockport Granite Company; Rockport, Mass. (Rockport gray, sea green, red granite, etc.).
Bates Bros. Seam-Faced Granite Co., Quincy, Mass. (granite ashlar, etc.).
The Dolben Quarries, Boston, Mass. (seam face granite ashlar).
Deacon Bros., Inc., Quincy, Mass. (building and monumental granite).
H. E. Fletcher Company, West Chelmsford, Mass. (white and Concord granite).
Granite Railway Company, Quincy, Mass. (railway sycnite).
Harrison Granite Co., Inc., New York, N. Y. (granite memorials).
S. Haskel & Sons, Inc., Brooklyn, N. Y. (shastare granites).
New England Granite Works, Westerly, R. I. (Westerly granite).
North Star Granite Corporation, St. Cloud, Minn. (pink, gray and red granites).
Perry Bros. Granite Co., Concord, N. H. (Concord granite).
Oneida Granite Company, Utica, N. Y. ("Egyptian" variegated pink granite).
Plymouth Quarries Incorporated, Boston, Mass. (ashlar granite, etc.).
Rock of Ages Corp., Barre, Vt.; "Rock of Ages" granite.
Stone Mountain Granite Corporation, Stone Mountain, Ga. (*Stone Mountain granite*).
Sullivan Granite Company, Westerly, R. I. (*dunensian granite*).

Benefits of Insulation

Thermal insulation as it applies especially to residence construction is of vital importance to comfort and economy.

In winter it keeps out cold; in summer it is a barrier against heat. Its bearing upon winter economy is clearly stated by the Bureau of Standards, United States Department of Commerce, in its Circular No. 376, "Thermal Insulation of Buildings." Basing its figures on an average insulating material put into the ordinary home not insulated or weather-stript—it states that:

Adding one-half inch insulation saves 20 to 30 per cent. fuel.

Adding one inch insulation saves 30 to 40 per cent. fuel.

If the house is weather-stript, insulation accomplishes an even greater saving in fuel, ranging, according to government figures, from 25 to 45 per cent.

While comfort can not be defined in figures it is significant that thermal insulation makes the home interior about 10 degrees cooler in summer than in the house not thus equipped.

The various kinds of insulating products are thus described by a writer in *The American Builder and Building Age:*

"These are: Rigid Board Materials; Flexible Blanket Materials; and Loose Fill Materials.

"The rigid boards are all composed of fibrous or granulated materials which have been comprest or felted into sheets or boards, more or less resembling lumber in appearance and general characteristics.

"Under the heading flexible blankets is a smaller group of products which, in general, are made somewhat like an ordinary bed comfort. They are composed of the various fibrous materials which, instead of being felted or comprest in board form, are

Courtesy of Granite Manufacturers and Quarriers Association

Chiseling Granite from Vermont's Huge Deposits

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matted between sheets of heavy paper of the kraft type.

"The loose-fill materials are all made from cork or from mineral substances, mineral wool, or ground or flaky gypsum."

Materials having minute air spaces or cells provide the greatest amount of insulation, while the Bureau of Standards' Circular emphasizes that:

"From the point of view of insulation only, the most important question is the thickness of insulating material to be applied, rather than what material to select, provided the choice is restricted to the class of cellular or fibrous materials."

Insulation is necessary for side walls and even more important for roofs which are the greatest source of winter-heat loss and summer-heat gain.

While thermal insulation should be included in the new home, it is possible to apply it to houses already built, but deficient in this respect.

Several leading manufacturers have perfected a blowing process by which loose-fill insulation material is forced into the walls between sheathing and plaster lath by comprest air, with roof and attic floor similarly treated. This method is applicable to all types of houses and its initial expense is more than covered by the fuel savings resulting

The advantage of weather-stripping should be secured in the new house and here again various types of modern weather-stripping may be applied to windows and doors not already thus protected.

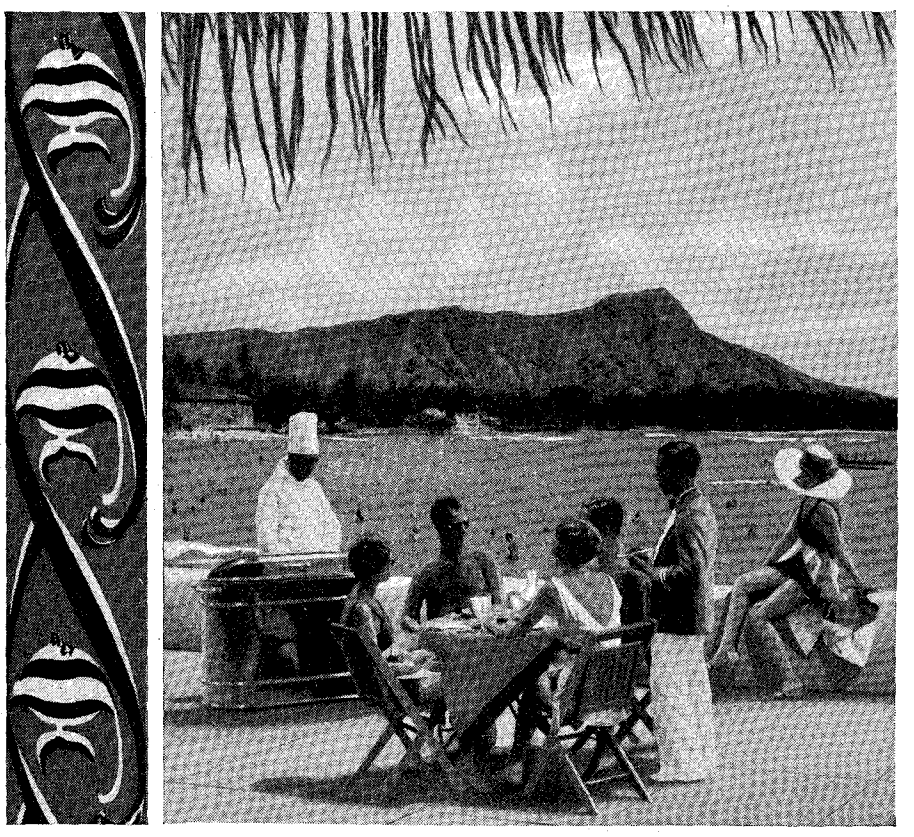
In addition to thermal insulation relating to temperature there is sound insulation, termed accoustical treatment, concerned with the reduction of noise.

Rigid Board Materials

Wood-Fibre Board Corporation; "Arborite All-Wood Insulating Board."
Armstrong Cork & Insulation Company, Lancaster, Pa.; "Armstrong's Corkboard," "Temlok."
Flax-li-num Insulating Company, St. Paul, Minn.; "Bi-Flax."
The Celotex Company, Chicago, Ill.; "Celotex."
Certain-teed Products Corporation, New York, N. Y.; "Certain-teed Insulating Board."
Cork Insulation Company, Inc., New York, N. Y.; "Corinco Corkboard."
Guyton & Cumfer Mfg. Company, Chicago, Ill.; "Comfert Insulating Board."
Union Fibre Sales Company, Winona, Minn.; "Fibrofelt."
Fir-Tex Insulating Board Company, St. Helens, Ore.; "Fir-Tex."
General Insulating & Mfg. Company, Alexandria, Ind.; "Gimco Rock Wool Cork Board."
Steward Inso Board Corporation, St. Joseph, Mo.; "Inso Board."
Cornell Wood Products Company, Chicago, Ill.; "In-Cel-Wood."
Insulite Company, Minneapolis, Minn.; "Insulite."
Johns-Manville Corporation, New York, N. Y.; "J-M Rock Cork," "J-M Insulating Board."
L. Mundet & Son, Inc., New York, N. Y.; "Jointite Corkboard."
Union Fibre Sales Company, Winona, Minn.; "Linoboard."
Union Fibre Sales Company, Winona, Minn.; "Lith."
National Gypsum Company, Buffalo, N. Y.; "Gold Bond Maftex."
Maizewood Products Corporation, Chicago, Ill.; "Maizewood."
Masonite Corporation, Chicago, Ill.; "Masonite."
The Mineral Felt Insulating Company, Toledo, Ohio; "Mineral Felt."
Cork Import Corporation, New York, N. Y.; "Novoid Corkboard."
Wood Conversion Company, Cloquet, Minn.; "Nu-Wood."
U. S. Gypsum Company, Chicago, Ill.; "Red Top Insulating Board."
International Fibre Board, Ltd., New York, N. Y.; "Ten-Test."
Housing Company, Boston, Mass.; "Thermatex."
Thermax Corporation, Seattle, Wash.; "Thermax."
Torfoleum Corporation, New York, N. Y.; "Torfoleum."
Triple Insulaire Company, Milwaukee, Wis.; "Triple Insulaire."
United Cork Companies, Lyndhurst, N. J.; "United's Corkboard."

Flexible Blanket Materials

Wood Conversion Company, Cloquet, Minn.; "Balsam-Wool."
Samuel Cabot, Incorporated, Boston, Mass.; "Cabot's Quilt."
Flax-li-num Insulating Company, St. Paul, Minn.; "Flax-li-num."
General Insulating & Mfg. Company, Alexandria, Ind.; "Gimco Rock Wool Flexfelt."
Union Fibre Sales Company, Winona, Minn.; "Linofelt."
Compo-Board Company, Minneapolis, Minn.; "Sealofelt."



Hawaii has no word for "weather"

SO EVEN TEMPERED is this Hawaiian sun, so little change in seasons that the native language has no word for "weather."

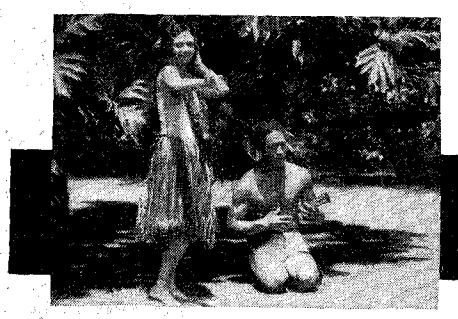
Spring will describe almost any month in Hawaii. The indolent Hawaiian sun seems content in its flowers and fruits and forgets all about the seasons. All year through you'll see it paint rainbows in Iao Valley and snatch back rain before it reaches the ground. See it blazing the crimson blossoms of the royal flame tree. See it ripening mangoes and guavas and sparkling the snow on Mauna Kea's volcanic mountain. See it bronzing swimmers as they squander days at Waikiki.

Introduce yourself to Hawaii's sun *this Spring*. Plan to stay for the Spring Festival, April 6-9, and Lei Day on May Day (1st)... Rest tired eyes in the eternal greenness of these Pacific isles. Let them sparkle with the color of a million flowers.

There's much to see . . . and do. You'll swim in water that is warmer than the air. You'll motor through miles of sugar cane, coffee and pineapple plantations, through fern jungles, along cliffs dropping sheer to the sea and over strange lava flows that lead to a volcano large enough to hold a city. You'll golf (with 20 courses to choose from), troll for barracuda, swordfish; cruise by air or sea to the other islands of Kauai, Maui and Hawaii, each rich with sights and pleasures.

New Low Fares April 1

You can comfortably make the round-trip from the Pacific Coast, *all expenses included*, for less than $300. And you can pleasantly crowd Hawaii into a three weeks trip. A letter will bring interesting proof.



HAWAII

HAWAII TOURIST BUREAU
(HONOLULU, HAWAII, U. S. A.)
227-C BUSH STREET, SAN FRANCISCO

The Hawaii Tourist Bureau will, upon request, mail you FREE, *authoritative information about the Islands. For special booklet, illustrated in full color, with maps, send 10c to defray cost of handling.*

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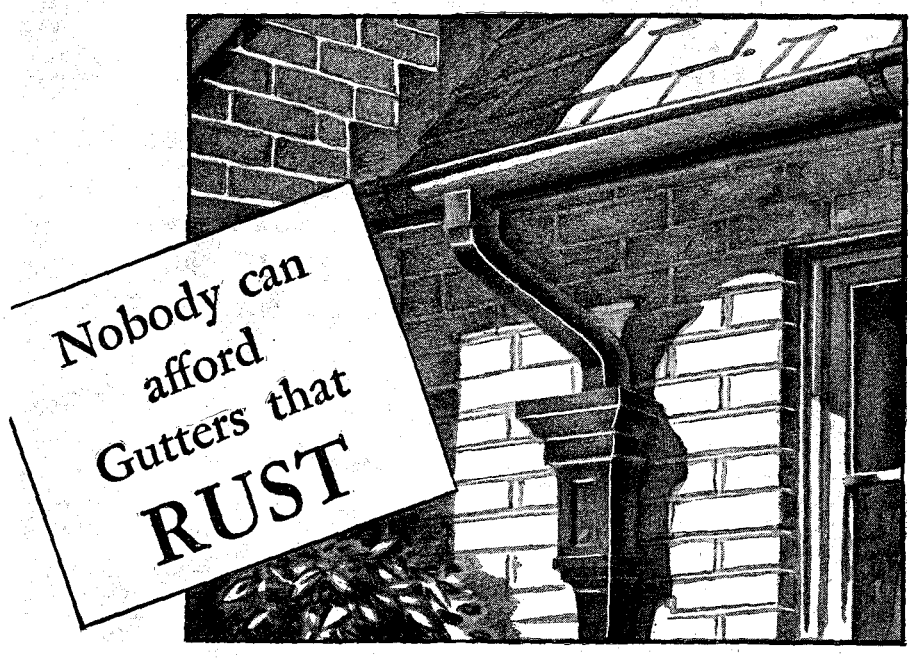

Gutters, rain-pipes and roof flashings that rust will *sooner or later* fail. At best, repeated painting only delays damaging leaks and expensive repairs.

Avoid this by building or repairing with Anaconda Copper. It *cannot rust.* Gutters and rain pipes of Copper for the average 7-room Colonial house cost only about $35 more than rustable metal—an amount saved over and over again in freedom from repair bills.

May we send the booklet, "Copper, Brass and Bronze in the Home"? Address Dept. L, The American Brass Company, Waterbury, Conn.

ANACONDA
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Noted Architects Recognize Its Authority

"The chapters on color are alone worth the price of admission."— *Kenneth M. Murchison, Architect.*

"I know this book will meet with great success. It is indeed fine, and most useful. . . . a very distinguished performance."— *John Russell Pope, Architect.*

"Distinction and Interest"

"To read it is very much like sitting tete-à-tete with a gracious woman whose mind and heart are full of knowledge and wisdom and happy experience in the making of beautiful homes, while she talks about the means and methods and materials by which the home can be rendered beautiful and livable and welcoming. . . . the volume has a distinction and an interest unusual in books of this class."—*New York Times Book Review.*

The Personality of a House

(The Blue Book of Home Design and Decoration)

By Emily Post, author of "Etiquette"

This volume now does for the American home what "Etiquette" did and is doing for American manners. It tells how to make every type of American home express, in its architecture, colors, and setting, all that is most attractive in the personality of its occupants, and especially of the woman who is its presiding genius.

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at a saving in cost and disappointment. The major portion of the book is devoted to the interior—the best decorative effects, the right furniture, rugs, hangings, etc.—and is as rich in suggestions for the apartment-dweller as for the house-owner.

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Mrs. Post is the daughter of the late Bruce Price, who was one of the foremost architects of his day, and she has always been noted for her knowledge of color and arrangement and for her flawless taste.

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At all book stores or from the publishers

FUNK & WAGNALLS COMPANY 354-360 Fourth Avenue New York

Union Fibre Sales Company, Winona, Minn.; "Union Rock Wool Blanket."
The Upson Company, Lockport, N. Y.; "Upson Blue-Stripe Insulation."
Western Felt Works, Chicago, Ill.; "Westex."

Loose Fill Materials

Certain-Teed Products Company, New York, N. Y.; "Dry Thermocrete."
Eagle-Picher Lead Company, Cincinnati, Ohio; "Eagle Mineral Wool."
General Insulating & Mfg. Company, Alexandria, Ind.; "Gimco Rock Wool."
National Gypsum Company, Buffalo, N. Y.; "Gold Bond Dry Fill."
Universal Gypsum & Lime Company, Chicago, Ill.; "Gypsolite."
Universal Gypsum & Lime Company, Chicago, Ill.; "Insulex."
Johns-Manville Corporation, New York, N. Y.; "J-M Home Insulation."
United States, Mineral Wool Company, New York, N. Y.; "Mineral Wool."
The Mineral Felt Insulating Company, Toledo, Ohio; "Pyrocoat."
Union Fibre Sales Company, Winona, Minn.; "Rock Wool."
Sprayo-Flake Company, Milwaukee, Wis.; "Sprayo-Flake."
U. S. Gypsum Company, Chicago, Ill.; "Thermofill."
Therm-O-Proof Insulation Company, Chicago, Ill.; "Therm-o-Proof."
United Cork Companies, Lyndhurst, N. J.; "United's Granulated Cork."
United Cork Companies, Lyndhurst, N. J.; "United's Re-Granulated Cork."

Products for Roofing

Requirements for the roof fall under these considerations: It is imperative that it shall be watertight, have long life, and in those localities in which this is a legal provision, be fire-resisting. In addition to utility the roof may be made to contribute to structural beauty.

A wealth of materials is available for attaining these purposes. As summarized in the book of the National Committee on Wood Utilization, Department of Commerce, "How to Judge a House," some include:

"Western red cedar, cypress, and redwood are the woods used for most of the wood shingles in this country. Staining or dipping in creosote gives them greater weather resistance.

"Many different styles and colors are available in tile.

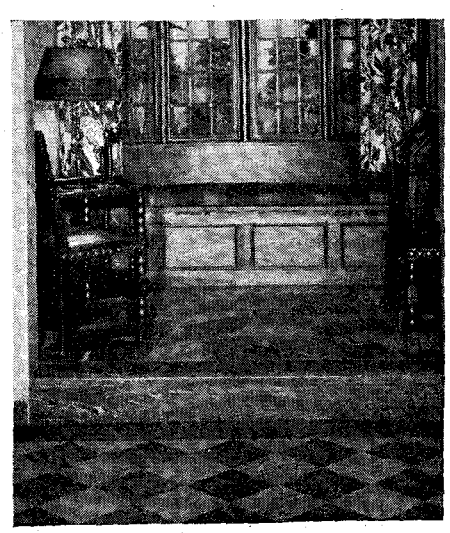
"Copper and zinc are extremely durable metals for roofing. Their use indicates quality construction.

"Asbestos shingles, made of asbestos fiber and a high percentage of Portland cement, are often used. These shingles come in different weights and qualities; some are smooth-surfaced, others are rough, and they may be obtained in a pleasing variety of colors.

"Composition shingles of asphalt and felt and roll roofing are widely used in many localities."

Shingles of copper, aluminum, copper-clad asphalt and iron are among these.

Slate in varied colors including black, blue black, gray, blue gray, purple, mottled purple and green, green, purple variegated and red, and designs not only pro-



Courtesy of U. S. Rubber Company

Rubber Tile Flooring

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vides a roof of enduring quality but adds to the artistry of the entire building. Classification as defined by the National Slate Association of Philadelphia is as follows:

"1. Standard composed of uniform length and width with square butts laid in line; 2. Textural with uneven butts and variations of thickness of size; 3. Graduated, combining artistic features of textural slate with additional variations; 4. Flat, standard and slate roofs of thicker slates with promenade possibilities."

Besides slate, a natural stone roofing has been introduced recently in the form of a quartzite shingle in varied colorings.

Among the most permanent roofings is tile, flat or rounded, available in rich colorings and including that made from clay, concrete; and metal made of copper, zinc, aluminum, tin, and enameled iron.

Rustless fastenings are of vital importance. Specifications for all roofing nails should require them to be hot dipt, zinc-coated, copper or aluminum.

Equally important to the main roof covering are the flashings, gutters, downspouts, etc., which should be of anti-corrosive material. They are supplied in copper, aluminum, zinc, tin, in such products of the American Sheet and Tin Plate Company, Pittsburgh, as American Apollo Best Bloom Galvanized Sheets, Apollo Keystone Best Bloom Galvanized Sheets, Black Sheets of every description, Keystone Copper Steel Sheets, Keystone Wellsville Polished Sheets; Corrugated Sheets, Black, Painted, Galvanized; Formed Roofing and Siding Products, Full Finished Sheets; Keystone Copper Steel Roofing Tin Plates, etc.

Armco Ingot Iron Sheets and Plates in many forms are products of the American Rolling Mill Co., of Middletown, Ohio, and Toncan Copper Mo-lyb-den-um iron rust and corrosion resisting sheets are made by Republic Steel Corp., Youngstown, O.

Anaconda Copper Roofing Products are made by the American Brass Co., Waterbury, Conn.

Among associations fostering various roofing materials are the Red Cedar Shingle Bureau, the National Lumber Manufacturers' Association, Washington, D. C.; Copper and Brass Research Association, New York; Tile and Mantel Manufacturers' Association, Washington, D. C.; Portland Cement Association, Chicago; National Slate Association, Philadelphia, Pa.

Makers of Roofing Products

Manufacturers of Wood Shingles

Art Stained Shingle Co., Inc., Buffalo, N. Y.; shingles.
Samuel Cabot, Inc., Boston, Mass.; red cedar shingles.
Creo Dipt Co., Inc., North Tonawanda, N. Y.; red cedar shingles.
Dura Color Corp., North Tonawanda, N. Y.; Dura-Color coated shingles.
Edham Company, Inc., St. Paul, Minn.; "Edham Kolored Shingles and Thatch."
Elhide Company of Cambridge, Mass.; red cedar shingles.
James Lumber Company, Boston, Mass.; "Blue-jay" cypress shingles.
Weatherbest Shingle Company, North Tonawanda, N. Y.; stained shingles.

Makers of Asbestos, Asphalt Shingles

Ambler Asbestos and Sheathing Co. of Ambler, Pa.; corrugated roofing.
Barber Asphalt Co., New York; "Genasco Asphalt Shingles."
Bird & Sons, Inc., East Walpole, Mass.; "Neponsit" asphalt shingles.
Philip Carey Co., Cincinnati, Ohio; asphalt, slate, and strip.
Certain-teed Products Corp., of New York; "Certain-teed Vulcanite Shingles."
Eternit, Inc., St. Louis, Mo.; "Eternit" asbestos shingles and asphalt.
Johns-Manville, New York; rigid asbestos and asphalt shingles
Lancaster Asphalt, Inc., New York.
Mohawk Asbestos Shingles Co., Oneida, N. Y.; asbestos shingles.
Ruberoid Co., N. Y.; asphalt and asbestos shingles.

Some Concerns Making Tile

American Cement Tile Mfg. Co., Pittsburgh, Pa.; "Bonanza Cementile" for roofing and porcelain roofing tile.
Anchor Fireproofing Co. of New York; "Afco" products.
Columbia Enameling and Stamping Co.
Federal Cement Tile Co., Chicago; precast concrete roof slabs.

He wouldn't give in till I fooled him

JIM always pooh-poohed the idea that caffeine affected him. He had been working awfully hard and getting increasingly nervous. It really was beginning to tell on him. He didn't sleep well and he looked worried.

One night, I changed the coffee — gave him Kaffee Hag Coffee. He never even noticed it, except to say it tasted unusually good. But from then on, *I* noticed a change. He began to sleep like a top. I told him about "the coffee that lets you sleep" later on. Now he won't drink anything else.

• • •

Kaffee Hag Coffee is the purest, finest coffee — with 97% of the caffeine and the indigestible wax removed. You can't tell it from the best cup of coffee you ever tasted.

Try Kaffee Hag Coffee for a week and see if you do not sleep better, feel better—put more enthusiasm and zest into your work. Kaffee Hag Coffee will benefit you, aside from its freedom from caffeine—for you need a warming, cheering beverage at supper. It aids digestion, encourages relaxation and sounder sleep.

Serve it for your evening entertainments, too, so all your guests can enjoy fine coffee without risk of a sleepless night. At a new low price. If you aren't entirely satisfied, return the can to us and your money will be refunded. Roasted by Kellogg in Battle Creek. Quality guaranteed.

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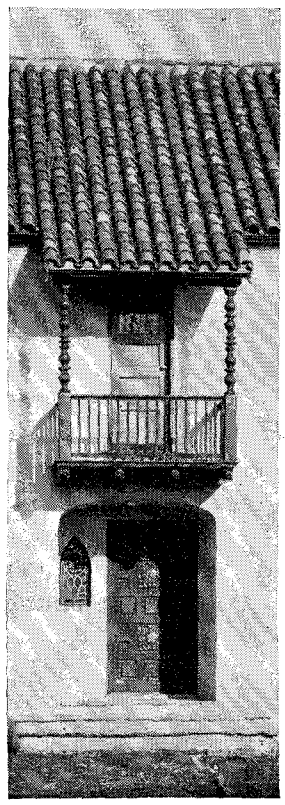
Glasiron Products Co. of Detroit; roofing tile.
Hawthorne Roofing Tile Co. of Chicago.
B. Mifflin Hood Brick Co. of Daisy, Tenn.
Ludowici-Celadon Company of Chicago; imperial roofing tile.
Milcor Steel Company, Milwaukee.
Mound City Roofing Tile Co. of St. Louis.
Murray Tile Co., Cloverport, Ohio.
Jacob Ringle & Son, Inc., Jersey City, N. J.; jumbo copper Spanish tile.
Structural Gypsum Corp., Linden, N. Y.; "Gypsteel" blocks and poured in place roofing and floors.
U. S. Gypsum Co., Chicago, Ill.; "Pyrobar" reinforced roof tile.

Built-Up and Metal Roofing

Aluminum Company of America, Pittsburgh, Pa.; "Alco" shingles.
American Rolling Mill Company, Middletown, Ohio; "Armco Ingot," iron sheets, black sheets, blue annealed sheets, corrugated sheets.
American Sheet and Tin Plate Co., Pittsburgh, Pa. "Keystone" and "Apollo" copper, aluminum, zinc, tin roofing.
American Tar Products Co., Pittsburgh, Pa.; "ATP" roofs, flashings, pitch, etc.
Barber Asphalt Co., Philadelphia, Pa.; "Genesco" built-up roofing, flashings, mastic, and waterproofing.
Barrett Company of New York; specification roofing and waterproofing materials.
Bird & Son, Inc., E. Walpole, Mass.; built-up and rolled roofings, asphalt shingles, etc.
Blaw - Knox Company, Pittsburgh, Pa.; "Blawsteel" galvanized roofs, steel roof decks.
Philip Carey Company, Cincinnati, Ohio: Carey built-up roof specification and composition shingles.
Certain-teed Products Corp., New York; "Certain - teed smooth faced flashings and slate surfaced rolled roofing; Certain-teed asphalt and Certain-teed asphalt roof coatings.
Chase Brass and Copper Company, Waterbury, Conn.; copper shingles.
Detroit Steel Products Co., Detroit, Mich.; "Holorib" reinforced steel roof plates.
FollamsbeeBros. Co., Pittsburgh, Pa.; Follamsbee forge roofing and fittings.
Henry Hope & Sons, Inc., New York; leadwork for roofing.
Johns Manville, New York; built-up roofing and other roofing products.
Klein & Kavanagh, New York; roofers and sheet metal craftsmen.
National Lead Company, New York (Hoyt Hardlead Product Div.); Hoyt hardlead roofing product.
Newport Rolling Mill Co., Inc., Newport, Ky.; gohi roofing.
Republic Steel Corp., Youngstown, Ohio; Toncan Copper Mo-lyb-den-um.
Richardson Roofing Co. (Div. Flintkote Co.); super-viscalt and other built-up roofs.
Ruberoid Co., New York; built-up roofs.
Truscon Steel Co., Youngstown, Ohio; "Steeldeck" roofs.
Wheeling Metal & Mfg. Co., Wheeling, W. Va.; "Leadclad" roofing materials.



Courtesy Ludowici-Celadon Company

Mission Tile Pleases

Among the Output of Roofing Fittings

American Brass Co., Waterbury, Conn.; Anaconda sheet and economy strips, copper.
Apollo Steel Co., Apollo, Pa.; Apolloy metal, copper, steel.
Chase Brass and Copper Co., Waterbury, Conn.; copper down spouts, gutters, etc.
Cheney Co., Winchester, Mass.; flashings.
Counter and Flashing Receiver Co., Milwaukee; flashings.
Copper and Brass Research Assn. of N. Y.
Figgen Co., Chicago; flashings.
R. F. Knox Co., Atlanta, Ga.; flashings.
Lyon, Conklin & Co., Washington, D. C.; "Lyonore" metal roof fittings.
Revere Copper & Brass Co., Rome, N. Y.; Revere copper brass and bronze sheets, rolls, strips, brass and copper nails.
O. S. Stewart Co., Cleveland, Ohio; down spouts.

Producers of Slate

Buckingham-Virginia Slate Co., Richmond, Va.
Chapman Slate Co., Bethlehem, Pa.
John D. Emack Co., Philadelphia, Pa.
Jackson Bangor Slate Co., Pen Argyl, Pa.
Keenan Structural Slate Co., Pen Argyl, Pa.
Knickerbocker Slate Corp. of New York.
Norton Bros., Granville, N. Y.
North Bangor Slate Co., Bangor, Pa.
O'Brien Bros., Granville, N. Y.
Owen W. Owens Slate Co., Granville, N. Y.
Parsons Bros. Slate Co., Pen Argyl, Pa.
Penrhyn Slate Co., Hydeville, Vt.
Rising & Nelson Slate Co., West Pawlet, Vt.
F. C. Sheldon Slate Co., Granville, N. Y.
Stevens Jackson Co., Pen Argyl, Pa.
Vendor Slate Co., Easton, Pa.
Vermont Structural Slate Co., Fair Haven, Vt.
H. G. Williams, Granville, N. Y.
J. W. Williams Slate Co. of Easton, Pa.

The Bangor Slate Association of Bangor Pa., includes twelve member companies:

Auld Conger Co., Cleveland, Ohio.
Bangor Ideal Slate Mining Co., Bangor, Pa.
Bangor Quarry Company, Bangor, Pa.
Bangor Washington Slate Co., Bangor, Pa.
Bangorvein Slate Co., Bangor, Pa.
Columbia Bangor Slate Co., Bangor, Pa.
Thos. Ditchett Estate, Bangor, Pa.
East Bangor Consolidated Slate Co., East Bangor, Pa.
Houston Bros. Co., Pittsburgh, Pa.
North Bangor Slate Co., Bangor, Pa.
Old Bangor Slate Co., Bangor, Pa.
Vendor Slate Co., Easton, Pa.

Flooring Materials

As the authors of the "The House Owners Book" aptly remark, "The floor is always 'under foot' and not less certainly under the eye." It must therefore fulfil the dual requirements of utility and attractiveness. And here again there is a wealth of selection.

Wood flooring is appropriate for every type of house, and in block form and in edge-grain lends itself also to the more severe requirements of business and public buildings.

"Lovers of art appreciate the distinctive charm of grain and figure that nature grew into oak," says the Oak Flooring Manufacturers Association of Memphis. It may be had in plain grain, or quartered, and it may be given a natural finish, a weathered effect, or stained in delicate grays and greens.

"Maple flooring sets a charming foundation for the entire decorative scheme," states the Maple Flooring Manufacturers Association of Chicago, which sponsors also the use of birch and beech. For further beautifying these woods, two manufacturers have recently put on the market permanent and penetrating color treatments.

Oak, walnut, redwood, cedar, and mahogany are other hardwoods used for parquetry and other special type flooring.

As for softwood flooring, quoting from "How to Judge a House," U. S. Department of Commerce:

"Quarter-sawed, also called edge-grain or vertical-grain, Southern yellow pine and Douglas fir are two popular choices which will last as long as the structure. Altho known as softwoods, they rank in reality among the harder and tougher woods. Edge-grain Western larch and West coast hemlock are also excellent for flooring."

"Floors of marble are supremely beautiful in all types of formal houses," says one author.

"A tiled floor needs no costly rugs," says the Associated Tile Manufacturers of New York. Faience glazed, Ceramic unglazed, colored Enamel, unglazed Quarry Tiles in natural colors and for certain rooms white glazed present endless possibilities.

Terrazo flooring of mosaic made from irregular fragments of marble has pleasing possibilities.

Stone and brick are suitable for certain floors.

Fabricated stonelike floor materials having magnesium as their base are offered in many patterns and colors, some simulating flagstone designs, tiles and marble effects. Then there are Asbestos Tiles made of asbestos fiber, mineral gums, and pigments, for covering both wood and concrete floors, while Ashphaltan Tile, precast in various shapes and colors, may be laid over concrete base.

To combat moisture and special conditions plastic flooring in reds and other colors, such as manufactured by the Imperial Floor Company of Rochester, N. Y., is troweled over cement or wood; provides waterproof and sanitary surfaces.

Rubber tiles both plain and interlocking are offered by several manufacturers in a charming variety of marble effects, plain colors and designs. They offer a noiseless, durable, sanitary, and waterproof flooring.

Formerly restricted to certain parts of the home, Linoleum, through artistry and style of finish, has become adaptable to every floor. The basic ingredients are finely ground cork, oxidized linseed oil, and burlap. Cork flooring consists of tile composed of pure cork, baked in molds under pressure, and supplied in various shades of the cork.

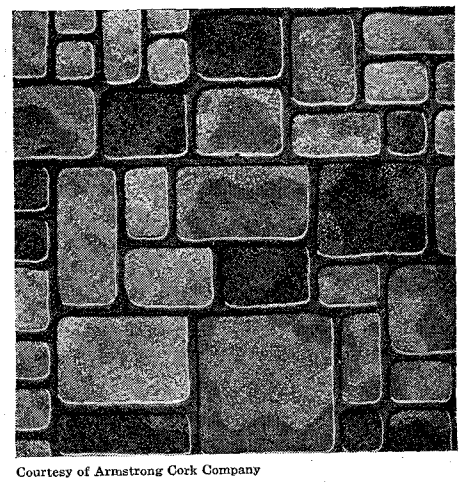
Oilcloth, the thicker grades of which are used for floor covering under special trade names, consists of special jute or burlap coated with thick oil paint and ornamented with designs printed in oil paints. Linoleum, cork, and oilcloth rugs are also offered in variety.

Floor finishes are legion. Besides the multiplicity of paints, concrete finishes, varnishes, enamels, stains, and waxes, there are numerous special preparations for polishing and preserving rubber tiling and for surfacing linoleum.

Floor Surfacing Materials

Armstrong Cork & Insulation Company, Lancaster, Pa.; "Linoleum," "Linotile," "Cork Tile," "Asphalt Tile."
Certain-teed Products Corp., New York, N. Y.; "Certain-teed Battleship Linoleum," "Certain-teed Inlaid Linoleum," "Floortex (Felt Base Floor Covering)."
Congoleum Nairn Company, Kearney, N. J.; "Sealex Linoleums," "Velotone Linoleums."
W. & J. Sloane Manufacturing Company, Trenton, N. J.; "Battleship Linoleum," "Plain Linoleum," "Jaspé Linoleum," "Cork Carpet," "Inlaid Linoleum."
Sandura Company, Incorporated, Philadelphia, Pa.; "Wild's Genuine Cork Linoleum," "Cork Carpet," (selling agents for) "Blabon's Art Linoleums," ("Blabon's 'Invincible' Battleship Linoleum," "Blabon's Plain, Jaspé, Printed and Inlaid Linoleum," "Blabon's Cork Carpet," etc.).
Goodyear Tire & Rubber Co., Akron, Ohio; Goodyear Rubber Flooring Tile.
United States Rubber Co., New York; "U. S. Royalite."
Stedman Rubber Flooring Co., South Braintree, Mass.; Reinforced Rubber Tiling.
Hood Rubber Products Co., Inc., Watertown, Mass.; Hood Tiles.
Medusa Portland Cement Co., Cleveland, Ohio; Medusa White and Gray Cement.
Master-Builders Co., Cleveland, Ohio; Colored Concrete Floors.

Note: Manufacturers of wood, cement, and marble are listed under these subjects.



Courtesy of Armstrong Cork Company

Embossed Inlaid Linoleum

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Interior Architecture

Our intimate home or office environment is determined by interior architecture, which includes inside plans and the construction of doors, floors, stairways, walls, and ceilings, mantels, window trim, and built-in furniture, such as library bookshelves and the like.

Thus the door, so conspicuous a part of the room, should harmonize in design and finish with its surroundings.

Stairways should suit the style of the house such as graceful curves and slender rails and spindles for Colonial; stone and wrought-iron spindles and wood hand-rails for Georgian, French, and Italian; marble and wrought-iron for Italian; straight-ascending or square-turning wood construction for Tudor; tile or brick stairway with metal baluster and rail for Spanish.

Materials for stairs follow closely those suitable for flooring described in a previous part of this section.

An infinite variety of harmonious designs and materials are possible for ceilings and walls. Plaster may be molded into cornices, pilasters, etc. Open-beamed ceilings and paneled or wainscoted side-walls offer opportunity to the architect. As Edward W. Donaldson says in Better Homes and Gardens:

"By means of its system of divisions, paneling imparts character to a room. What composition and framing do for a picture, paneling does for a room."

Woods for interior trim include among others, walnut, mahogany, oak, birch, gumwood, poplar, pine, larch, cypress, and redwood, besides a variety of composition materials.

Mantels of wood, brick, stone, tile or marble may not only be features of interior grace but also radiate harmony with their surroundings.

For utility and artistry tiles have infinite possibilities in interior architecture. As the Associated Tile Manufacturers, New York, say:

"No other material is so economical for a bathroom as ceramic tiles, for no other will last as well. To-day the most modest home can afford this luxury. With ceramic tiles your kitchen can be made one of the most attractive rooms in the house. The sun-room, veranda, porch, or terrace in colorful ceramic tiles gives a very individual touch to any house. The beautiful spotless tile floors of Dutch, Flemish, French, and Old English dining-rooms give us countless examples of the appropriateness and beauty of ceramic tiles for dining-room or breakfast-room. The entrance-hall should be planned to give a first impression of charm and beauty.

"And to do this nothing is more effective than ceramic tiles. A laundry in tiles is strikingly sanitary. Ceramic tiles, being a fire product, seem particularly appropriate for fireplace construction."

For tile walls "Snapon" metal lath, a new invention of the Mortenson Engineering Company, Chicago, makes possible a faster and more economical tile setting.

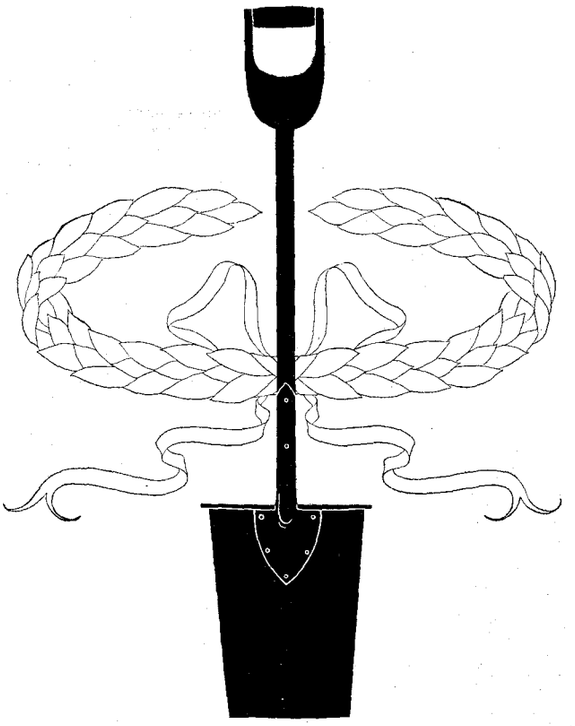
Famous craftsmen offer pleasing choice of interior hardware. Catalogs of the leading manufacturers give the widest choice of hinges, locks, escutcheons, door handles, push plates, sash fixtures, door stops, house numbers, door knockers, door closers, cupboard fixtures, drawer pulls, coat and hat hooks, transom hardware, shutter fixtures, chimney braces, shoe scrapers, letter-box plates, and the like.

Then there is also the artistry of ornamental metal work in bronze, brass, iron and other metals.

Building Hardware Manufacturers, Ornamental Metal Work, etc.

P. & F. Corbin, New Britain, Conn.; building hardware.
Bommer Spring Hinge Company, New York; hinges.
W. Irving Forge, Inc., New York; hand wrought iron.
Sargent & Company, New Haven, Conn.; building hardware.

Yes, *this is a* SPADE!



● It doesn't make a particle of difference whether it's *cold feet* or *frozen assets* that's holding this country back—the time has come to call a spade a spade, and take hold and start digging for business.

● Let's stop bewailing "hard times". Let's admit that we are all equally responsible for things as they are—let's admit that the situation won't get any better until you—and You—and YOU—all of us—do something about it.

● As long as we wait for the other fellow, nothing is going to be done. Everybody can help. You, Mr. & Mrs. Consumer, you can buy the things you need! Don't put them off, until, as you say, "times get better". Times for buying will probably never be better than they are right now. You know that. Look at the prices! Do you think they *can be* any *lower?* Besides, it's hopeless trying to guess the absolute bottom. Buy *now!*

● You, Mr. Manufacturer, you can *buy now*, too! Publication rates are cheaper. The volume of competitive advertising is *down*. The market was probably *never better* for purchasing public good will and interest in *your* product—the kind that translates itself into *sales* and *profits!*

● This advertising agency *knows* that hard times are *good times to "dig in"*. By proving it for our clients, we've proved it for ourselves! And we're ready to share the secret of this success with *you!* As a preliminary —why not drop us a line on your business letterhead for "Five Advertising Success Stories".

SAMUEL C. CROOT COMPANY
ADVERTISING
28 West 44th Street **New York City**

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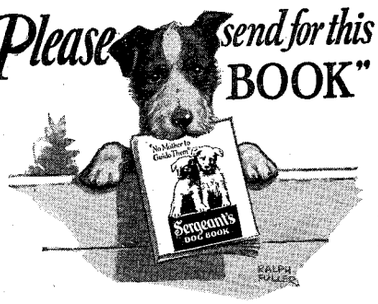


DO YOU really know all that you should about caring for your dog, diagnosing his ailments, keeping him healthy and happy?

This valuable information, information that may save your dog's very life, is *yours for the asking.*

Write for your *free* copy of the famous "SERGEANT'S DOG BOOK." Millions of copies have been sent to dog owners. 48 pages, beautifully illustrated. Contains a "Symptom Chart" that tells at a glance what ails your dog. Chapters on Diseases, Feeding, Breeding, Registering Dogs. WRITE FOR YOUR FREE COPY TODAY.

Expert Advice Free . . . .

Our own veterinarian will gladly advise you personally about your dog's health. Write him fully. This service is given in the interest of dog welfare by the makers of SERGEANT'S DOG MEDICINES, "A Medicine For Every Dog Ailment" . . . the best-known dog medicines in the world. Sold everywhere.

FEED YOUR DOG ON SERGEANT'S DOG FOOD. The ration that contains all the FRESH BEEF dogs *must have* for health.

POLK MILLER PRODUCTS CORPORATION
1810 W. Broad Street
Richmond, Va.

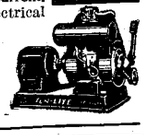
Sergeant's DOG MEDICINES
"A MEDICINE FOR EVERY DOG AILMENT"

LEARN TO LIVE
FREE INTRODUCTORY BOOK

Overcome YOUR daily obstacles. Why struggle along, merely existing? The practical, modern teachings of the ROSICRUCIANS are uplifting, containing principles of psychology showing you how to attain MASTERSHIP of YOURSELF. The Free Book, "Light of Egypt," will be sent to *sincere students only* without obligation. It is your chance to *learn to really live.*

ROSICRUCIAN BROTHERHOOD
(AMORC)
Librarian E. V. C. San Jose, California

ELECTRIC LIGHTS ANYWHERE
Complete Lite Plant ready to run. Supplies 300 watts, 110 volt Direct Current. Operates electrical appliances. **$99**



Fine for Lake Cottage, Camp, Farm —*Wiring complete and ten lights, $12.* Also other D. C. and A. C. models.
Write D. W. ONAN & SONS, 765 Royalston Ave., Minneapolis, Minn.

MOST LITTLE PIGS GO TO MARKET *BUT* THE BEST LITTLE PIGS GO TO JONES

for America's Greatest Breakfast Luncheon and Supper Delicacy

JONES DAIRY FARM SAUSAGE

Made today as it was originally made almost 100 years ago—

Jones Dairy Farm—Fort Atkinson, Wis.

Stanley Works, New Britain, Conn.; building hardware.
Myron S. Teller, Kingston, N. Y.; colonial forged hardware.
Chimney Rock Forge Company, Asheville, N. C.; colonial forged hardware.
William H. Jackson Company, New York; artizans in metals
Yale & Towne Mfg. Company, Stamford, Conn.; Yale locks.
Casement Hardware Company, Chicago, Ill.; window hardware.
Haskell & Hatch Company, Boston, Mass.; window hardware.
Lundell-Eckberg Mfg. Co., Inc., Jamestown, N. Y.; window hardware.
Parker-Regan Mfg. Company, San Francisco, Calif.; window hardware.
Oscar C. Rixson Company, Chicago, Ill.; window hardware.
G. F. S. Timmerman Co., Inc., Frederick, Md.; window hardware.
Soulé Steel Company, Los Angeles, Calif.; window hardware.
American Brass Company, Waterbury, Conn.; architectural metals.
Aluminum Company of America, Pittsburgh Pa.; architectural aluminum.
American Bronze Company, Chicago, Ill.; architectural bronze.
A. J. Bayer Company, Los Angeles, Calif.; ornamental iron, bronze.
Art Metal Construction Company, Jamestown, N. Y.; decorative bronze.
General Bronze Corporation, New York, N. Y.; architectural bronze.
The Gorham Company, New York; architectural metalwork.
The John Harsch Bronze & Foundry Co., Cleveland, Ohio; architectural metalwork.
Hasselman & Salterini, Inc., New York; metal craftsmen.
J. S. Heath Company, Waukegan, Ill.; bronze and wrought iron work.
Illinois Bronze & Iron Works, Chicago, Ill.; architectural metalwork.
International Nickel Co., Inc., New York; monel metal, etc.
Logan Company, Louisville, Ky.; ornamental work.
T. F. McGann & Sons Co., Boston, Mass.; architectural metalwork.
James McKinney & Son, Albany, N. Y.; ornamental cast iron.
Michaels Art Bronze Co., Covington, Ky.; bronze and iron works.
Newman Mfg. Company, Cincinnati, Ohio; architectural metalwork.
Reliance Bronze & Steel Corp., New York; bronze work.
Russell & Erwin Mfg. Co., New Britain, Conn.; building hardware.
E. P. Smith Wire & Iron Works, Chicago, Ill.; ornamental bronze, iron.
John Williams, Inc., New York; bronze and iron work.

A Selection of Partitions

Wood Partitions

American Folding Door & Partition Company, Hasbrouck Heights, N. J.
Add-A-Unit Partition Company, Inc., Chicago.
Circle A Products Corporation, Newcastle, Ind.
Folding Products Corporation, Chicago, Ill.
Hyde Murphy Company, Ridgway, Pa.
Irving Hamlin, Evanston, Ill.
Henry Klein & Company, Inc., Elmhurst, N. Y.
Horn Folding Partition Company, Fort Dodge, Iowa.
Weber Showcase & Fixture Company, Los Angeles, Calif.
Swedish Venetian Blind Company, New York City, N. Y.
Quiet Zone Folding Wall Co., Cleveland, Ohio.
J. G. Wilson Corporation, New York.

Metal Partitions

Art Metal Construction Company, Jamestown, N. Y.
Dahlstrom Metallic Door Company, Jamestown, N. Y.
Empire Steel Partition Company, Inc., College Point, N. Y.
Globe Wernicke Company, Cincinnati, Ohio.
E. F. Hauserman Company, Cleveland, Ohio.
Mills Metal Company, Cleveland, Ohio.
Newman Manufacturing Company, Cincinnati, Ohio.
Reister & Thesmacher Company, Cleveland, Ohio.
Sanymetal Products Company, Cleveland, Ohio.
Snead & Company, Jersey City, N. J.
United Metal Products Company, Canton, Ohio.
Wright Metal, Inc., Jamestown, N. Y.

Open Mesh Partitions

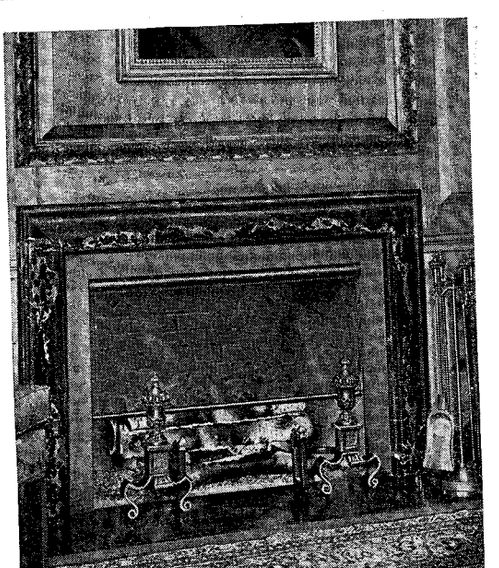
Acme Wire and Iron Works, Detroit, Mich.
Acorn Wire and Iron Works, Chicago, Ill.
Badger Wire and Iron Works, Milwaukee, Wis.
Consolidated Expanded Metal Companies, Wheeling W. Va.
Cyclone Fence Company, Waukegan, Ill.
Denby Wire and Iron Company, Cleveland, Ohio.
Garden City Plating & Manufacturing Company, Chicago, Ill.
Logan Company, Louisville, Ky.
Market Forge Company, Everett, Mass.
Page Fence Association, Chicago, Ill.

Decorative Finishes

For every purpose of preservation and decoration from shingle stain to cellar-floor paint, there are innumerable stains, oils, paints, varnishes, and enamels. The interests of this great industry are the concern of two great Associations, the National Paint, Varnish and Oil Association of New York and the American Paint and Varnish Manufacturers Association, Inc., which is affiliated with the first named organization. A combined membership of about 1,700 manufacturers is included. We list below a few representative products with exception of concrete finishes, which are mentioned elsewhere.

Paints, Varnishes & Other Finishes

National Paint, Oil & Varnish Assn., Inc., New York.
American Paint & Varnish Mfgrs. Assn., Inc., (affiliated with the above organization).
Aluminum Company of America, Pittsburgh, Pa.; Aluminum paint.
Arco Company, Cleveland, Ohio; "Arco."
Berry Brothers, Inc., Detroit, Mich; Berrycraft finishes.
Billings-Chapin Company, Cleveland, Ohio; paints, etc.
Boston Varnish Company, Boston, Mass.; "Kyanize" paints and varnishes.
Samuel Cabot, Inc., Boston, Mass.; shingle stains and wood preservatives.
Certain-teed Products Corp., New York; paints, etc.
Craftex Company, Boston, Mass.; "Sunflex," "Craftex."
Creo-Dipt Company, Inc., North Tonawanda, N. Y.; Creo-Dipt shingle stains.
Joseph Dixon Crucible Company, Jersey City, N. J.; industrial utility and floor paint.
Detroit Graphite Company, Detroit, Mich.; Degraco paints.
Detroit White Lead Company, Detroit, Mich.; Roger brushing lacquer.
Devoe & Raynolds Company, Inc., Brooklyn, N. Y.; paints, etc.
E. I. DuPont De Nemours & Company, Inc., Philadelphia, Pa.; DuPont Duco, etc.
Glidden Company, Cleveland, Ohio; "Ripolin" enamel products.
Hercules Powder Company, Wilmington, Del.; nitrocellulos lacquer.
John Lucas & Company, Inc., Philadelphia, Pa.; Lucas paint products, etc.
Lowe Brothers Company, Dayton, Ohio; paints and varnishes.
John W. Masury & Sons Company, New York; paints and varnishes.
Murphy Varnish Company, Newark, N. J.; varnishes and enamel products.
National Lead Company, New York; Dutch Boy products.
New Jersey Zinc Company, New York; zinc oxid, "Albalith," "Crypton" zinc sulfid and metallic zinc powder.
Ohio Varnish Company, Cleveland, Ohio; "Chinamel."
Parker Rust Proof Company, Detroit, Mich.; "Bonderite."
Peaslee-Gaulbert, Louisville, Ky.; "Pee-Gee" paints.
Pittsburgh Plate Glass Company, Pittsburgh, Pa.; paints, varnishes, lacquers, etc.; wallhide paint.
Pratt & Lambert, Inc., Long Island City, N. Y.; varnishes, enamels, etc.



Courtesy of William H. Jackson

Fireplace of Distinction

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Sherwin-Williams Company, Cleveland, Ohio; paints, varnishes, etc.
L. Sonneborn Sons, Inc., New York; floor treatments, water-proofing materials and paints.
Standard Varnish Works, New York; "Elastica" varnishes, "Satinette" enamels, "Koverfloor" finish, "S. V. W." house and wall paints.
Tropical Paint & Oil Company, Cleveland, Ohio; paints, etc.
Truscon Laboratories, Detroit, Mich.; paints, etc.
U. S. Gutta Percha Paint Company, Providence, R. I.; "Barreled Sunlight."
Valentine & Company, New York; Valspar varnish, paints, etc.
Wadsworth, Howland & Company, Boston, Mass.; paints and varnishes.
Benjamin Moore & Company, Philadelphia, Pa.; paints.
Pecora Paint Company, Inc., Philadelphia, Pa.; Pecora paint.
Continental Chemical Corp., Watseka, Ill.; "Car-na-var," "Rubber-var," floor treatments.

Plumbing to Date

In building equipment and design no swifter and more radical change and improvement has taken place than in plumbing. Outstanding is the adoption of rustless pipe and artistic design obtained through form and color and more extended use of lustrous metals for fixtures. These developments find their expression in bathroom, kitchen, and lavatory. Plumbing and Heating Industries Bureau, Chicago, Ill.

As exprest in a booklet of the Standard Sanitary Manufacturing Company:

"The salient characteristic of America, the bathroom, is a symbol of the highest standard of hygiene and home sanitation that has ever existed. The bathroom can be the most distinctive as well as the most essential room in your home."

And as Kohler of Kohler states: "Home does not end at the threshold of the bathroom. It's just another room, perhaps an extension of the bedroom, ranking in importance with any other home feature. Outside of its service to sanitation, cleanliness, and health, think of it in terms of decorative beauty. Let it share your home personality. Take the same pride in its get-up that you would in the atmosphere of your living-room."

Similarly in the kitchen color and pleasing design have been combined in the fixtures for the pride and delight of the housewife. In addition to the vitreous materials for sinks, etc., shining monel metal is being applied.

Brass pipe affords "a clean, pure, wholesome flow of water for generations, and copper used for service pipes is easy to install and eliminates rust troubles and replacement," says the Copper and Brass Research Association of New York, which issues a series of informative booklets on this subject.

The interests of cast-iron pipe used largely for industrial purposes are promoted by the Cast Iron Pipe Research Association of Chicago.

Fixtures

Abingdon Sanitary Mfg. Co., Abingdon, Ill.; plumbing fixtures—closets.
Brunswick-Balke-Collender Co., Chicago, Ill.; "Whale-Bone-ite" seats.
W. A. Case & Son Mfg. Co., Buffalo, N. Y.; "T N" Toilet and "Robson" Lavatory.
C. F. Church Mfg. Co., Holyoke, Mass.; "Church Sani Seats."
The Crane Company, Chicago, Ill.; enameled and vitreous china lavatories, etc.
Kohler of Kohler, Kohler, Wis.; Kohler fixtures.
Thomas Maddocks Sons Co. (div. American Radiator-Standard Sanitary Corp.), Trenton, N. J.; Maddock fixtures.
J. L. Mott, Company, Inc., Trenton, N. J.; Mott plumbing fixtures.
Mueller Company, Decatur, Ill.; vitreous bathroom ware, bronze fixtures, etc.
Never-split Seat Co., Evansville, Ind.; hard rubber and wood seats.
Sloane Valve Company, Chicago, Ill.; "Royal Flush Valves."
Speakman Company, Wilmington, Del.; showers, combination fixtures.
Standard Sanitary Mfg. Co. (American Radiator-Standard Sanitary Corp.), New York; "Standard" fixtures.
Standard Tank & Seat Co., Camden, N. J.; "Stasco" seats.
Trenton Potteries Co., Trenton, N. J.; "Te-pe-co" all-clay plumbing fixtures for bathrooms.
Wolff Company, Chicago, Ill.; Wolff plumbing fixtures.

Now—FEWER COLDS.. LESS SEVERE COLDS

Mothers everywhere have welcomed and adopted the Vick Plan for better "Control-of-Colds." In millions of homes, it is reducing the number, severity and duration of colds.

HERE, BRIEFLY, IS THE VICK PLAN:

1.—BEFORE *a Cold Starts*

At that first scratchy, sneezy irritation of the nasal passages, or a child's first "sniffle"—Nature's warning of a cold coming on—use the new Vicks Nose & Throat Drops promptly. Also, at the slightest stuffiness following exposure to anything that usually causes a cold. Vicks Drops are based on a new idea of *preventing* colds—of stopping many colds before they get beyond the nose and throat—where most colds start.

2.—AFTER *a Cold Starts*

If you have neglected precautions—or a cold slips by them—don't neglect the cold. Follow the Vick 24-hour treatment as directed: Use the family's standby—Vicks VapoRub—at bedtime, for its double attack on the cold all night long. Follow with Vicks Nose Drops for ease and comfort during the day. (If there is a cough, try the new Vicks Cough Drop—actually medicated with Vicks VapoRub.)

TRIAL OFFER BY YOUR DRUGGIST

You have Vicks VapoRub. Now get the new Vicks Nose Drops and use with VapoRub as directed in the Vick Plan—to reduce your family's "Colds-Tax" in money, loss of time and health. Unless you are delighted with results, your druggist is authorized to refund your money.

Use Together

VICKS Nose & Throat DROPS

VICKS VAPORUB (Now in Stainless Form . . . if You Prefer)

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Pipe for Plumbing

Copper and Brass

American Brass Company, Waterbury, Conn.; Anaconda brass, copper, nickel, chromium plated brass pipe.
Bridgeport Brass Co., Bridgeport, Conn.; Bridgeport Plumright brass pipe, tubing, etc.
Chase Brass and Copper Company, Waterbury, Conn.; Alpha brass pipe and Chase flexible Copper tubing.
Copper & Brass Research Assn., New York; research in building service in connection with copper, brass, bronze.
Foster Wheeler Corp., New York; brass and copper pipe.
C. G. Hussey & Company, Pittsburgh, Pa.; brass and copper pipe.
Mueller Brass Co., Port Huron, Mich.; brass and copper pipe.
Mueller Company, Decatur, Ill.; brass and copper pipe.
Scoville Mfg. Co., Waterbury, Conn.; brass and copper pipe.
Revere Copper & Brass, Inc. (with six subsidiary companies), Rome, N. Y.; brass and copper pipe.
Wolverine Tube Co., Detroit, Mich.; brass and copper pipe.

Wrought-Iron Pipe

A. M. Byers Co., Pittsburgh, Pa.; Byers pipe, couplings, nipples, etc.
Reading Iron Company, Reading, Pa.; Reading genuine puddled wrought-iron pipe, etc.

Steel Pipe

Jones & Laughlin Steel Corp., Pittsburgh, Pa.; copper alloy and steel pipe.
National Tube Co., Pittsburgh, Pa.; variety of pipe.
Republic Iron & Steel Co., Youngstown, Ohio; Republic copper bearing steel pipe, wrought and welded steel pipe, etc.
A. O. Smith Corp., Milwaukee, Wis.; variety of pipe.
Wheeling Steel Corp., Wheeling, W. Va.; Cop-R-Loy pipe.
Youngstown Sheet and Tube Company, Youngstown, Ohio; variety of pipe.

Styles in Windows

The capable architect treats windows not only from the standpoint of utility but as factors of design influencing the beauty of the structure.

Types of residential windows fall under three general groups.

"1. Double-hung windows consist of upper and lower sash of wood or other materials, counterbalanced with sash-weights and sliding up and down in frame channels.

"2. Casement windows—the sash and frames of which are usually made of steel, bronze, copper-bearing steel or aluminum, swing either in or out with wide hinges, or with pivots.

"3. French windows reach to the floor, are made in pairs, and swing outward on side hinges."

Metal casements are undoubtedly the most popular of all types, suitable for every style of architecture with exception of the Georgian Colonial.

For this style of architecture a leading manufacturer—Messrs. David Lupton's Sons, Philadelphia, Pa., has recently brought out a steel double hung window.

The two kinds of transparent glass in use are sheet and plate. High quality of glass is essential in the well-built window. Sheet glass, which was formerly produced in cylindrical form, is now manufactured in drawn flat form through the invention of Irving W. Colburn, adopted by the Libbey-Owens Sheet Glass Company, now the Libbey-Owens-Ford Glass Company.

The interests of flat-drawn window glass are fostered by the Window Glass Manufacturers Association of New York.

Both sides of plate-glass are ground with sand and emery, and finally polished with rouge. "Plate-glass is free from imperfections that distort vision, easy to clean, reduces sound, conserves heat," says the association, Plate Glass Manufacturers of America, Pittsburgh, Pa.

Within recent years a glass which transmits the invisible ultra-violet rays in sunlight has been placed on the market.

The artistry of window glass reaches its culminating glory in the embodiment of stained glass. The Stained Glass Association of America, Boston, is occupied with this type and issues an attractive monthly bulletin devoted to its craftsmanship entitled "Stained Glass," for twenty-five years the official organ of this organization.

The advantages of weatherstripping windows as well as doors is referred to in our treatment of insulation.

Insect-protection for windows and doors has advanced in recent years. Screens are no longer unattractive in material or design. Steel, bronze, copper, and now aluminum and monel metal are the raw materials from which they are fabricated.

There are sliding screens, fixt screens, and roll screens operating on a roller and guide.

The Wire Screen Cloth Manufacturers Institute of New York is operated in the interest of screen cloth.

Window ventilators are supplied in various forms, and manufacturers of the latest development—silencers and air filters—are elsewhere listed under the subject of ventilation.

Windows, Doors, Trim, Etc.

For Wood Construction see list of Lumber Manufacturers.

Metal Construction

Art Metal Construction Company, Jamestown, New York, Hollow Metal Doors and Trim.
The Adams Company, Dubuque, Iowa, Steel Windows and Doors.
Bogert & Carlough, Paterson, New Jersey, Steel Windows and Doors.
Campbell Metal Window Corporation, New York, Metal Windows.
De Pitt Casement Corporation, New York, Steel Windows.
Dahlstrom Metallic Door Company, Jamestown, New York, Metal Doors, Partitions.
Detroit Steel Products Co., Detroit, Metal Window Frames.
Cincinnati Manufacturing Company, Cincinnati, Ohio, Hollow Metal Doors.
Coburn Trolley Track Manufacturing Company, Holyoke, Massachusetts, Metal Covered Doors.
Cornell Iron Works, Long Island City, New York, Fireproof Doors.
Empire Fireproof Door Company, New York, Metal Covered Windows, Doors.
International Casement Company, Jamestown, New York, Casement Windows.
Wm. H. Jackson, New York.
Kinnear Manufacturing Company, Columbus, Ohio, Fireproof Doors.
Lord & Burnham, New York, Sash Control and Green House Construction.
Majestic Iron Works, Inc., Chicago, Sash Control and Green House Construction.
McCoy Bronze Company, Inc., The, Detroit, Bronze Casements, Doors.
Metal Door and Trim Co., La Porte, Ind.
Newman Manufacturing Company, Cincinnati, Ohio, Bronze Windows, etc.
S. H. Pomeroy Company, Inc., New York, Metal Windows.
Steel Sash Company, Muskegon, Michigan, Steel Windows.
Thorp Fire Proof Door Company, Minneapolis, Minnesota, Fireproof Doors.
J. S. Thorn Company, Philadelphia, Pennsylvania, Steel Windows, Lift Doors.
Truscon Steel Company, Youngstown, Ohio, Fireproof Doors.
U. S. Metal Products Company, San Francisco, California, Steel Windows, Doors.
United Metal Products Company, Canton, Ohio, Fireproof Doors.

Window Glass

Acetol Products, Inc., New York, N. Y., "Cel-O-Glass" (to permit passage of ultra-violet rays).
Adamston Flat Glass Co., Clarksburg, W. Va., flat-drawn glass.
American Window Glass Company, Pittsburgh, Pa., "A-G-W," "Quartz-Lite."
Libbey-Owens-Ford Glass Co., Toledo, Ohio, flat-drawn clear sheet glass, polished plate glass, shatterproof safety glass.
Mississippi Glass Co., New York, plain and polished figured glass, polished wire glass, etc.
Macbeth-Evans Glass Co., Pittsburgh, Pa., Macbeth Glassware.
Pittsburgh Plate Glass Co., Pittsburgh, Pa., "Vista" plate glass, "Tapestry" glass, sheet glass (flat-drawn), "Helioglass," ultra-violet ray window glass.
Saftee Glass Co., Philadelphia, Bullet Proof glass.
Vitaglass Corp., New York, "Vita Glass" clear window glass permitting passage of ultra-violet rays.

Window Screens

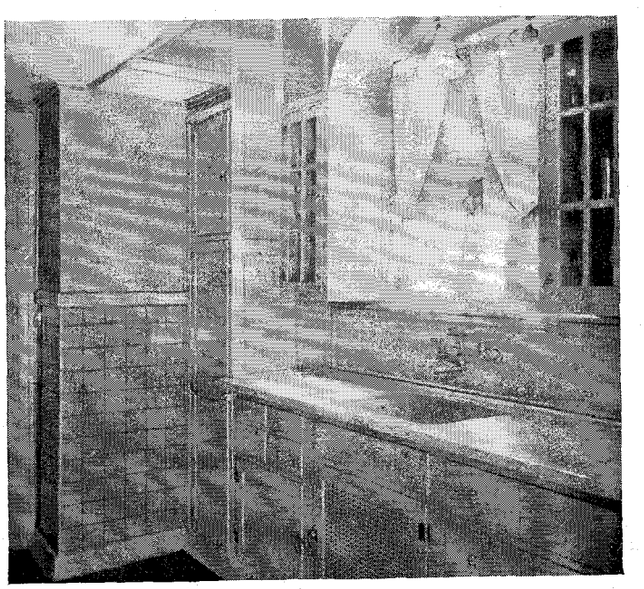
American Rolling Screen Company, Chicago, Ill., Metal Rolling Window Screens.
E. T. Burrowes Company, Portland, Me., Rustless Screens.
Chamberlin Metal Weather Strip Co., Inc., Detroit, Mich., Chamberlin Rolling Screens.
Cincinnati Fly Screen Company, Cincinnati, Ohio, Copper and bronze screens and bronze wire cloth.
Higgin Manufacturing Company, Newport, Ky., Fixt and rolling screens and metal weather-strips, Venetian Blinds.
Jamestown Screen & Mfg. Co., Inc., Jamestown, N. Y., Roll screens, bank and vision screens, metal and wood insert screens.
Kane Manufacturing Company (Screens), Kane, Pa.
Orange Screen Company, Maplewood, N. J., Window screens.
Rollscreen Company, Pella, Iowa, "Rollscreens," "Alumina" cloth.

Wire Screen Cloth

American Wire Fabrics Corp., New York, N. Y., Wire Screen Cloth.
Chase Copper & Brass Co., Inc., New York, N. Y., Wire Screen Cloth.
Cyclone Fence Company, Waukegan, Ill., Wire Screen Cloth.
Gilbert & Bennett Mfg. Company, New York, N. Y., Wire Screen Cloth.
Hanover Wire Cloth Company, Hanover, Pa., Wire Screen Cloth.
Keystone Wire Cloth Company, Fostoria, Ohio, Wire Screen Cloth.
New York Wire Cloth Company, New York, N. Y., Wire Screen Cloth.
Pacific Wire Products Company, Los Angeles, Calif., Wire Screen Cloth.
Pennsylvania Woven Wire Company, Lock Haven, Pa., Wire Screen Cloth.
Reynolds Wire Company, Dixon, Ill., Wire Screen Cloth.
John A. Roebling Sons Company, Trenton, N. J., Wire Screen Cloth.
Spargo Wire Co., Inc., Rome, N. Y., Wire Screen Cloth.
Wickwire Brothers, Inc., Cortland, N. Y., Wire Screen Cloth.

Shades and Fixtures

Charles W. Breneman Co., Cincinnati, Ohio, Shades and fixtures.
Columbia Mills Inc., N. Y., Shades, Rollers.
Stewart Hartshorn Co., New York, Shades and fixtures.



Courtesy G. I. Sellers & Sons Company

Remodeled Butler's Pantry

Luminous Metals

Bright metals for structural adornment of large buildings are coming into wide use, notably in such sky-scrapers as the Empire State Building in New York with its thousands of feet of shining Chromium Steel, and the Chrysler Building in the same city with its Nevastain KA2 coating, while structures of New York's greatest building enterprise, "Radio City," will have many tons of aluminum for sprandels, etc.

Among the largest producers of bright metals for exterior and interior use are the Aluminum Company of America, Allegheny Steel Company, Crucible Steel Company, International Nickel Company, Ludlum Steel Company, Republic Steel Company.

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Heating, Ventilating

"Without question," writes C. Stanley Taylor in an article entitled 'Heat and Humidity,' in *Country Life*, "there have been more advances and improvements in domestic heating during the last year or so than in any other division of home-building or home equipment. New standards of convenience and comfort have become established, and new boilers, appliances, fixtures, and even entire heating systems have been produced to meet these advances."

So radical are these changes that the heating equipment of a decade or so ago is becoming obsolete.

Engineers and manufacturers are concentrating upon developments which will do more than produce a certain degree of temperature. Hot water, steam, vapor or warm air have long been able to accomplish this. But they have given us an atmosphere which as Mr. Taylor further goes on to say is "far drier than any atmosphere found in nature including that in the extraordinarily dry Death Valley of California."

So the modern heating systems by diverse methods are designed to supply humidification for the benefit of health and comfort.

Again speaking in general terms, the trend is toward mechanical circulation of air for complete diffusion throughout the room.

Some of these and other improvements have almost completely transformed the warm air heating system not only in the quality and application of heat but in automatic coal stoking.

With steam and vapor there has been also a vast improvement in radiators and radiator installation, superseding the heavy and ugly devices of earlier days. Concealed radiation is standard practise.

Probably the most novel experiment is in the warming of a room by radiating heat through its walls.

Automatic heating with oil or gas under thermostatic control continues to make rapid gains to the immense convenience of users. It has completely transformed the old-time cellar into a clean, attractive room.

Heating and ventilating progress is furthered by the American Society of Heating and Ventilating Engineers of New York, founded in 1895 and by several Government Departments. Research laboratories are engaged in improving codes and establishing new principles and practises for architects, engineers, contractors and manufacturers.

Integrity and efficiency in heating equipment installation are the objects of the Certified Heating Bureau of New York with branches in all large cities.

"The purpose of Certified Heating," says the Bureau, "is to provide a name and identification mark for a universally proven set of standards by which the heating installation for any particular building, depending upon its location, materials used and construction, may be calculated and designed."

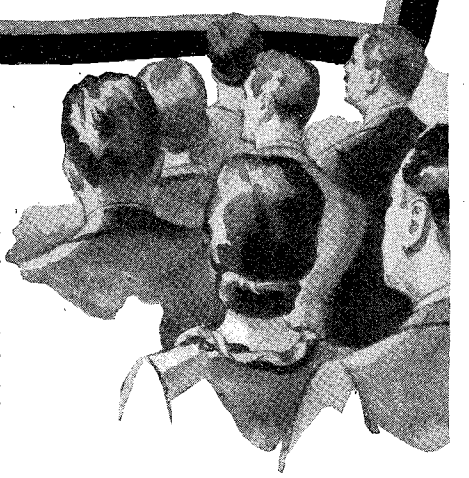
Also furthering high engineering standards is the Heating and Piping Contractors National Association with Headquarters in New York. We now consider heating systems and equipment.

Gas Heating Steps Ahead

In spite of adverse economic conditions gas heating is making rapid gain. During the past heating year ending July 31 there was an increase of between 15 and 20 per cent. in installations of gas-fired boilers.

"It is the cleanliness, convenience, automatic control and other features smacking of improved practise that have endeared gas heating to those who have such systems. . . . In addition to homes, commercial buildings have been quite amenable to the gas heating idea. . . . In a home-building development in Flushing, L. I., with a total of 500 houses, gas will be the

A Message to School Executives *that parents are invited to read*



Children should not pay the penalty of lessened educational opportunity because of economic ills.

EDUCATORS—School Officials—Parent Teacher Organizations—parents themselves and public spirited citizens as well should face educational problems today with a unified purpose: The schools must progress, must offer ever better standards in education—and at the same time institute economies enabling practical operation within available budgets and with diminished incomes.

It is possible to undertake a modernizing program in connection with old or obsolete schools without special financing or costly expenditure. Many able educators have practical plans for obtaining the modern seating essential to progressive, efficient education that can be put into effect economically. Through business-like, conservative, and proved procedure, new classroom seating so essential to modern teaching methods can be installed in present buildings without cost consciousness to the community.

New seats that make it *easy* and *natural* to sit erect, that safeguard health by protecting vital organs from being cramped and crowded—that induce correct posture habits which endure for life—seats that make for modern schools until new buildings can be conveniently undertaken.

Mr. J. Robb Harper—Superintendent Wilmette, Illinois, Public Schools, says:

"For a relatively small annual expenditure in comparison to the total cost of education, we are enabled to give our students seating that is posturally correct and a definite aid to their health and efficiency. My budget has always carried an item for New Developments. A part of that appropriation is applied to a program of RESEATING. Thus each year a number of rooms are brought up to the most efficient standard. So each year some of the classrooms are made new, and the penalties of obsolete seats eliminated."

Modern classrooms pay large returns in teaching efficiency and educational economy. Superintendents, principals, teachers—or any others who may be interested—are invited to write us (or use coupon)

The American Universal Desk illustrated, is a stock type provided with Book Support, which quickly converts it into a sight conservation desk. This desk is available in five other distinct modern classroom models, with posture-correctness that induces healthful sitting posture without physical strain.

concerning modern seating and practical plans for replacing obsolete seating. Specialists competent to counsel will carefully analyze conditions and submit plans found effective elsewhere. For the sake of your child modernize your school where it means most to him and costs least to you.

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heating fuel. . . . The Flushing homes just mentioned are not an isolated case. The trend has begun in many other parts of the nation; in fact, wherever the public utility company has reduced its fuel rate for this use to 75 cents per 1,000 cubic feet or less," says *The Plumbers and Heating Contractors Trade Journal.* Research and educational work in gas heating come within the activities of the American Gas Association of New York.

Advance in Oil Heating

Oil heating which has established new standards of comfort, convenience and cleanliness in automatic heating efficiency is gaining steadily in use. Reduction in the cost of fuel oil during the past year makes its use even more desirable now.

Among the considerations governing the selection of an oil burner pointed out in circular 405 of the United States Department of Agriculture:

"1. Reliability of local representative, stability of business. . . .

"2. Grade of fuel which burner is capable of burning. The type of fuel available in the community.

"3. Amount of noise. A burner which is noisy is highly objectionable.

"4. Amount of cleaning or attention required.

"5. Accessibility. . . .

"6. Availability of gas or electricity. . . .

"7. Capacity. It is, of course, essential that the oil burner selected shall be of such capacity as to provide for the maximum heating demand."

To these may be also added, listing as standard by Underwriters Laboratories.

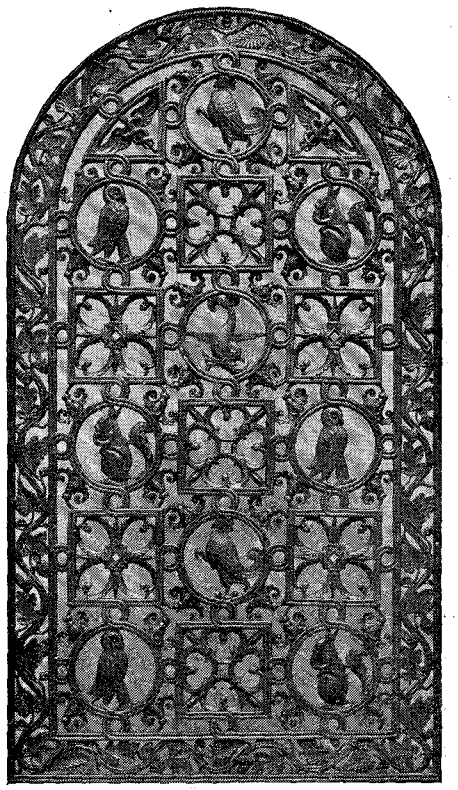
While most equipments are connected to boilers or furnaces there are available single unit heaters in which boiler and burner are combined.

Research or educational work in the furtherance of oil heating are activities of the Oil Heating Institute of New York. It is a central bureau of oil-heating information where any one interested may secure accurate information on this modern method of heating. It supplies technical and trade information to architects, building and heating contractors, fire authorities, and home owners.

The Institute publishes three booklets entitled "Oil Heat and the Business of Living"; "Oil Heat a New Standard of Living" and "A Few Steps to Comfort, Modernizing the Cellar." Any or all will be sent free upon request.

Makers of Leading Oil Burners

Automatic Burner Corporation, Chicago, Ill. ABC oil burner.
The Bettendorf Mfg. Company, Bettendorf, Iowa; Bettendorf oil burner.
The Carborundum Company, Perth Amboy, N. J.; Carboradiant oil burner.
Century Engineering Corporation, Cedar Rapids, Iowa; Century oil burner.
Chalmers Oil Burner Company, Minneapolis, Minn.; Chalmers oil burner.
Cleveland Steel Products Corp., Cleveland, Ohio; Toridheet oil burner.
Combustion Oil Burner Company (Div. of the Heil Company), Milwaukee, Wis.; Combustion oil burner.
Crystal Oil Burner Corporation, Irvington, N. J.; Crystal blue flame oil burner.
Electrol, Incorporated, New York; Electrol oil burner.
Enterprise Oil Burner Company, San Francisco, Calif.; Enterprise oil burner.
Fluid Heat, Incorporated, Baltimore, Md.; Fluid heat oil burner.
Franklin Oil Heating, Inc., Columbus, Ohio; Ben Franklin oil burner.
Grant Oil Burner Corporation, Jersey City, N. J.; Grant oil burner.
Hardinge Brothers, Inc., Chicago, Ill.; Hardinge oil burner.
Hart Oil Burner Corporation, Peoria, Ill.; Hart oil burner.
Holby Burner Corporation, New York; Holby oil burner.
International Burners Corp., New York; Caloroil, Crescent and Victory oil burners.
S. T. Johnson Company, Oakland, Calif.; Johnson oil burner.
Kleen-Heet, Chicago, Ill.; Kleen-Heet oil burner.
Lassen & Bissell, Incorporated, Hartford, Conn.; United States oil burner.
Malleable Iron Fittings Company, Branford, Conn.; Branford oil burner.
May Oil Burner Corporation, Baltimore, Md.; Quiet May oil burner.
Mayflower Oil Burner Corp., West New York, N. J.; Mayflower oil burner.
Mid-West Oil Burner Mfg. Company, Chicago, Ill.; Mid-West oil burner.
Motor Wheel Corporation, Lansing, Mich.; Piatt oil burning utilities.
McIlvaine Burner Corporation, Evanston, Ill.; McIlvaine oil burner.
National Airoil Burner Company, Philadelphia, Penn.; National Airoil burner.
Nu-Way Corporation, Rock Island, Ill.; Nu-Way oil burner.
Oil-American Burner Corporation, Roselle Park, N. J.; Carter-Korth oil burner.
Oil-Elec-Tric Engineering Corp., Minneapolis, Minn.; Oil-Elec-Tric burner.
Perfection Stove Company, Cleveland, Ohio; New Perfection oil burner.
Petroleum Heat and Power Company, Stamford, Conn.; Petro and Nokol oil burners.
Quaker Manufacturing Company, Chicago, Ill.; Quaker burnoil heaters and range burners.
Rayfield Manufacturing Company, Chicago, Ill.; Rayfield oil burner.
Ryan, Scully & Company, Philadelphia, Penn.; R-S oil burner.



Courtesy of William H. Jackson Company

Bronze Grille for a Bank

Silent Automatic Corporation, Detroit, Mich.; Silent automatic oil burner.
The Silent Glow Oil Burner Corp., Hartford Conn.; Silent Glow oil burner.
Simplex Oil Heating Corp., New York; Simplex oil burner.
The Sundstrand Engineering Company, Rockford, Ill.; Sundstrand oil burner.
Super Oil Heator Sales Company, Hartford, Conn.; Super Oil Heator burner.
Sword & Kimber Company, Philadelphia, Penn.; Sword burner.
The Timken-Detroit Company, Detroit, Mich.; Timken oil burner.
Wayne Oil Burner Corp., Fort Wayne, Ind.; Wayne oil burner.
Williams Oil-O-Matic Heating Corp., Bloomington, Ill.; Oil-O-Matic burners.
York Oil Burner Co., Inc., York, Pa.; York oil burner.

Heating by Electricity

A new era in heating homes and other buildings by electricity looms. Electric hot water supply heaters are already well established and now come the initial steps toward automatic house heating.

The advantages of automatic flameless and completely unattended electric heating are obvious. The economic disadvantages due to the cost of current have heretofore been an obstacle. A solution of this problem is being accomplished by Public Utility Companies offering "off-peak" rates for residence heating. Nearly fifty companies have already established "off-peak" rates. These rates apply to current used during the inactive hours at the power station and range from three-fourths of a cent per kilowatt hour upward. During this "off-peak" period the current is used to supply heat for insulated hot-water boilers with adequate heating supply for the entire twenty-four hours.

"Off-peak" hours heating need be only a little more of a luxury than gas heating," says *The Electrical World.*

Such equipment is being specialized by the Hall Electric Heating Company, Inc., of Philadelphia and considerable attention to this entire subject is being given by the National Electric Light Association of New York.

Hot-Water and Steam Heating

The long-established advantages of these heating systems are being still further strengthened by new principles and designs of radiation.

In the hot-water system heated water is circulated from the boiler throughout the radiating system. Radiators retain heat longer than with steam.

In the steam system low pressure steam is forced from the boiler to radiators. Heat is transmitted more quickly than by hot water.

In the vacuum or vapor system, a partial vacuum is created in the radiators which enables vapor or steam to form at lower temperatures than in the straight steam system. It combines some of the advantages of both hot water and steam.

Steam and Hot-Water Heaters

American Radiator Company, New York; steam, hot-water, coal, oil gas-fired boilers.
American District Steam Co., North Tonawanda, N. Y.; "Adsco" systems of steam heating.
Burnham Boiler Corp., Irvington-on-Hudson, N. Y.; steam, hot-water, and smokeless boilers.
Brownell Company, Dayton, Ohio; steam-heating and power boilers.
Bryant Heater & Mfg. Co., Cleveland, Ohio, gas-fired boilers, boilers and warm-air furnaces.
Bryan Steam Corporation, Peru, Ind.; boilers for oil or gas heating.
Central Radiator Company, New York; boilers for coal and oil-burning.
Cleveland Heater Co., Cleveland, Ohio; hot-water heaters.
Combination Boiler Co., Benton Harbor, Mich.; triple-service steel boiler for oil.
Crane Co., Chicago. Ill.; hot-water heaters.
Edison Electric Appliance Co., Chicago, Ill.; hot-water heaters.
Excelso Products Inc., Buffalo, N. Y.; hot-water heaters.
Fitzgibbons Boiler Co., Inc., New York; steel boilers.
Florence Stove Co., Boston, Mass.; hot-water heaters.
Garwood Engineering Co., New York; "Garwood" boilers.
Gorton Heating Corp., Garwood, N. J.; single pipe vapor steam.
Heggie-Simplex Boiler Co., Joliet, Ill.; electric arc-welded heating boilers.
Hoffman Heater Co., Louisville, Ky.; hot-water heaters.
Holyoke Heater Co., Holyoke, Mass.; hot-water heaters.
Humphrey Co., Kalamazoo, Mich.; hot-water heaters.
International Heater Co., Utica, N. Y.; heating equipment.
E. Keeler Co., Williamsport, Pa.; water tube boilers.
Kewanee Boiler Corp., Kewanee, Ill.; boilers, steel tanks, water heaters.
Jas. P. Marsh & Company, Chicago, Ill.; systems and equipment
Molby Boiler Company, New York; magazine-fed heating boilers.
Newport Boiler Co., Chicago, Ill.; Newport magazine-fed boilers.
Peerless Heater Co., Boyerstown, Pa.; gas-fired boilers.
Perfection Stove Co., Cleveland, Ohio; hot-water heaters.
Pierce, Butler & Pierce, New York; heating equipment.
Pittsburgh Heater Co., Pittsburgh, Pa.; hot-water heaters.
Richardson & Boynton, New York; heating equipment.
Ruud Mfg. Co., Pittsburgh, Pa.; hot-water heaters.
Sands Mfg. Co., Cleveland, Ohio; hot-water heaters.
The Thatcher Company, Newark, N. J.; steam and hot-water boilers.
H. B. Smith Co., Westfield, Mass.; steam or hot-water plants.
Spencer Heater Co., Williamsport, Pa.; magazine-fed heaters.
Titusville Iron Works Co., Titusville, Pa.; steel boilers.
United States Radiator Corp., Detroit, Mich.; steam heating systems.
Warner Webster Company, Camden, N. J.; steam heating systems.
Westinghouse Electric and Mfg. Co., E. Pittsburgh, Pa., hot-water heater.

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Warm-Air Heating Improvements

Few methods of home heating have made greater progress than the original warm-air system. Mechanical blowers and automatic stokers with radical improvements of design have almost revolutionized warm-air heating. Besides new designs for cellar furnaces the tasteful "cabinet" type of warm-air heaters for upstairs use have offered new possibilities in economy and cleanliness. Interests of this system and its manufacturers are fostered by the National Warm Air Heating Association of Columbus, Ohio.

Warm-Air Heaters

Bryant Heater & Furnace Co., Cleveland, Ohio; gas-fired furnaces.
Holland Furnace Co., Holland, Mich.; Holland vaporaire system.
Kalamazoo Stove Co., Kalamazoo, Mich.
L. J. Mueller Furnace Co., Milwaukee, Wis.; gas-fired warm-air furnace.
Richardson & Boynton Co., New York; "R. and B" furnaces, automatic garage heater.
The Thatcher Company, Newark, N. J.; "Warm Friend" heating equipment.
Warm Air Furnace Fan Co., Cleveland, Ohio; "Miles" automatic furnace man.

Coal Stokers

American Engineering Co., Philadelphia, Pa.; Taylor Stoker.
Brownell Co., Dayton, Ohio; automatic coal stoker.
Cokal Stoker Corp., Chicago, Ill.; Cokal Stoker.
Combustioneer, Inc., Goshen, Ind.; Combustioneer stoker.
Domestic Stoker Co., New York; electric furnaceman.
Iron Fireman Mfg. Co., Portland Ore.; Iron Furnaceman stoker.
Motor Stoker Corp., New York; Motor-stoker.

To-day's Usage in Valves

"Every radiator, of course, whether it be for a hot-water, steam or vapor system must have an air-valve," says John Worth in *The American Builder and Building Age*. "In the old-fashioned radiator these air-valves were unpleasantly conspicuous. It is quite a puzzle to find an air-valve on the modern slender tube radiator. They are skilfully concealed near the bottom of the radiator."

Some Valve Manufacturers

American Radiator-Standard Sanitary Co., New York; valves.
Dole Valve Co., Chicago, Ill.; valves.
C. A. Dunham Co., Chicago, Ill.; Dunham radiator valves, etc.
Crane Company, Chicago, Ill.; valves.
Grinnell Co., Inc., Providence, R. I.; "Thermoflex" radiator traps.
Hoffman Specialty Co., Inc., Waterbury, Conn.; Hoffman venting valves, etc.
Jenkins Bros., New York; valves.
Ohio Injector Company, Wadsworth, Ohio; valves.

New Styles in Radiation

Concealed and semi-concealed radiation is the trend of approved modern practise. Non-ferrous radiators made from copper and other metals are coming into adoption, having the advantage of high heat giving, light weight, and small area. A wide selection of various types of radiators is offered by the American Radiator Company, while a recent invention is a combination cast-iron and copper radiator combining the advantages of each metal developed by the Modine Mfg. Company, Racine, Wisconsin.

Some Makers

American Heating & Supply Company, Rockford, Ill.; "America" shields.
American Metal Products, St. Louis, Mo.; "Kauffman Shields and Enclosures."
American Radiator Co., New York; "Arco" radiator; "Peerless" and "American."
American Steel Furniture Company, New York; "Universal Radiator Cabinets, Shields."
Beh Company, New York; "Gem" radiator shields.
Bomar Manufacturing Company, Louisville, Ky.; "Kleanheat Radiator Covers, Cabinets."
Clow & Sons Company, Chicago, Ill.; "Gas-steam" radiators.
Dixie Metal Products Company, Inc., Birmingham Ala.; "Dixtell," "Regal" and "Hermitage" enclosures.
Fulton Sylphon, Knoxville, Tenn.; "Ja-Nar."
Hart & Cooley Manufacturing Company, Chicago, Ill.; enclosures and registers.

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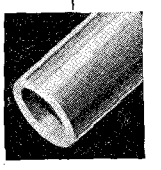

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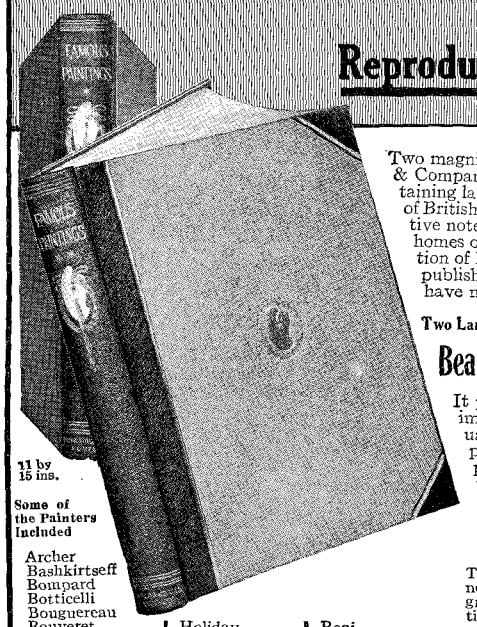

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Hart & Hutchinson Co., New Britain, Conn.; radiators.
Herman Nelson, Moline, Ill.; invisible radiators.
Modine Manufacturing Company, Racine Wis.; "Modine" concealed copper radiators.
Metal Stamping Co., Long Island City, N. Y.; copper or aluminum "Fintube" radiators.
Mullins Company, Salem, Ohio; radiator covers.
National Radiator Co., Johnstown, Pa.
Radiant Steel Products, Williamsport, Pa.; "Radkover" radiator shield.
Richmond Radiator Co., New York.
Rome Brass Radiator Co., New York; radiators.
Schleicher, Inc., Gary, Ind.; "Slyker" radiator furniture, boxes, etc.
Sodermann Heat and Power, St. Louis, Mo.; "Shapco" radiator shields.
Syracuse Radiator Company, Syracuse, N. Y.; garage heating systems.
W. H. Johnson & Son Company, Indianapolis, Ind.; "Acme" shields and enclosures.
Trane Co., La Crosse, Wis.; vacuum heating specialties, concealed heaters.
United States Radiator Corporation, Detroit, Mich.; "Capitol" boilers and radiators.

Indispensable Thermostats

Thermostatic control of all heating systems is now standard practise because it saves fuel, maintains even temperature and insures maximum comfort. Manufacturers include:

American Radiator Co., New York; Arco motor valve, Mercoid thermostats.
Barber-Colman Co., Rockford, Ill.; thermostats.
Johnson Service Co., Milwaukee, Wis.; thermostats.
Minneapolis Honeywell Regulator Co., Minneapolis, Minn.; Minneapolis Honeywell thermostats.
Penn Electric Switch Company, Des Moines, Iowa; *Penn room thermostats.*
Penn Heat Control Co., Philadelphia, Pa.; *heat regulator for every type of heating.*
Powers Regulator Co., Chicago, Ill.; automatic temperature controlling systems.

Air Filters, Humidifiers, Noise Silencers, Ventilating Appliances

Airgard Ventilator Corp., New York; "Airgard" ventilator and silencer.
All-Weather Ventilator Co., New York; window ventilators.
American Air Filter Co., Louisville, Ky.; air filters and dust arresters.
American Blower Co., Detroit, Mich.; heating, ventilating, drying, air conditioning, filtering equipment, etc.
American Radiator Co., New York; "Ideal Cascade" humidifier.
Bayley Blower Co., Milwaukee, Wis.; ventilation, heating, air washing, humidifying equipment.
Buffalo Forge Co., Buffalo, N. Y.; heating and ventilating equipment.
Burgess Battery Co., New York; "Mountainaire" ventilator and noise silencer for windows.
Campbell Metal Window Co., New York; Maxim-Campbell ventilator and noise silencer for windows.
Cincinnati Victor Co., Cincinnati, Ohio; electric ventilators.
Corozone Co., Cleveland, Ohio; "Aquazone" humidifier.
Crane Company, Chicago, Ill.; Doherty-Brehm humidifier.
Diehl Manufacturing Co., Elizabethport, N. J.; motor-driven ventilating.
Electrovent Corp., Detroit, Mich.; *home electric ventilators.*
Emerson Electric Mfg. Co., St. Louis, Mo.; motor-driven fans.
Frigidaire Corp., Dayton, Ohio; "Hot Kold" air conditioner.
General Ironworks Co., Cincinnati, Ohio; Home air conditioner.
A. C. Gilbert Co., New Haven, Conn.; "Vital Air."
Grinnell Co., Providence, R. I.; ventilating.
Holland Furnace Co., Holland, Mich.; "Holland" air conditioning unit for home.
Ilg Electric Ventilating Co., Chicago, Ill.; fans, blowers, exhausters, and unit heaters.
Lewis Corp., Minneapolis, Minn.; humidifiers.
Mid-West Air Filters, Inc., Brandford, Penn.; filters, humidifiers.
Mueller-Sturtevant Co., Milwaukee, Wis.; air-conditioning systems.
National Filter Co., Chicago, Ill.; air filter.
Niagara Blower Co., Buffalo, N. Y.; conditioning.
Thomas Nugent Sons, Inc., N. Y.; heating.
Herman Nelson & Co., Moline, Ill.; ventilators.
Peerless Electric Co., Warren, Ohio; motor-driven fans, ventilators, and exhaust fans.
Pollenaire, Inc., Cleveland, Ohio; air purifiers.
Robbins & Myers Co., Springfield, Ohio; fans and motors.
Savo Manufacturing Co., Chicago, Ill.; air moistener.
H. M. Sheer Co., Quincy, Ill.; humidifiers.
Strandwitz and Scott, Inc., Camden, N. Y.; Webster air washers and coolers.
B. F. Sturtevant Co., Boston, Mass.; heating and ventilating apparatus.
Typhoon Fan Co., New York; fans for exhaust.
United States Blower & Heater Corp., Minneapolis, Minn.; air-conditioning equipment.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Penn.; ceiling portable and exhaust fans.
Western Blower Co., Seattle, Wash.; ventilation.
Westwind Corp., Seattle, Wash.; "Westwind" window ventilators.
Wing Manufacturing Co., New York; fans.
Zephyr Washed Air Co., Minneapolis, Minn.; humidifying, air-purifying system.

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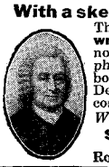

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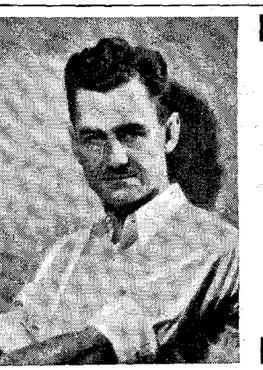

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NEW SCHEDULE
Every Night, Except Saturday and Sunday
(Unless Otherwise Specified)

WJZ	—New York City	6:45 E.S. Time
WBZ	—Boston	6:45 E.S. Time
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KDKA	—Pittsburgh	6:45 E.S. Time
WHAM	—Rochester (Ex. Thurs.)	6:45 E.S. Time
WLW	—Cincinnati	6:45 E.S. Time
WMAQ	—Chicago	5:45 C.S. Time

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The New Epoch in Indoor Air

Science and engineering have created a new era of physical benefit and happiness for the millions who work or live indoors. It is the epoch of manufactured weather and is termed Air Conditioning. No forward step in building progress is of more transcendent importance.

Air conditioning is the creation of indoor weather which will contribute health and comfort to our lives at all seasons of the year.

It is attained through combined regulation of temperature, humidity, cleanliness and movement of air.

Air conditioning has a vital bearing upon health. The lungs require 366 cubic inches of air every minute normally. Air conditioning supplies them with the full quota of oxygen. Seventy-seven per cent. of the body's heat loss is due to evaporation of perspiration. Air conditioning meets the deficiency of indoor heated air by addition of humidity. Disorders of nose and throat due to infectious or irritating dust or dirt are prevented by clean air, while the exhaustion due to excessive heat and humidity in summer is eliminated by refreshingly cooled and dehumidified interiors.

Air conditioning means to our comfort not only this freedom from physical ills due to improper air but the happiness and mental efficiency we so often experience on a spring or autumn day when the thermometer registers 70 degrees and there is 40 per cent. humidity.

Thus what has been designated the "Comfort Zone" has been determined by the American Society of Heating and Ventilating Engineers in collaboration with the United States Public Health Service and other Government bodies.

This "Comfort Zone" represents a range of temperature humidity and air motion within which most people feel the greatest degree of comfort. One of the most desirable conditions in this zone was determined to be 70 degrees and from 35 per cent. to 40 per cent. relative humidity. It is interesting to note that to attain this objective six gallons of water per day must be evaporated in the average small house during the winter months.

For years the necessity of certain specialized industrial processes, conditioned air made its dramatic début in cooling and conditioning the air of motion-picture theaters a few years ago.

From this application it has spread to the hotel, public building, restaurant, office and factory, railway car, steamship, and now the home.

"This new industry is expected to be doing a $250,000,000 business in the near future," states the New York *Times*, while an official of the Department of Commerce predicts that the next great wave of mass production paralleling oil burners, radios and mechanical refrigerators will center around air conditioning.

In the home application, the air conditioning system warms, humidifies, cleans and circulates the air, for as Logan Clendening, M.D., author of the "Story of the Human Body," says: "Good ventilation demands that the air should be in gentle motion through a room." Such systems will shortly be offering cooling in summer. Complete systems for "manufactured weather" in the home and larger systems for commercial and industrial installations are manufactured by Carrier Engineering Corporation, Newark, New Jersey.

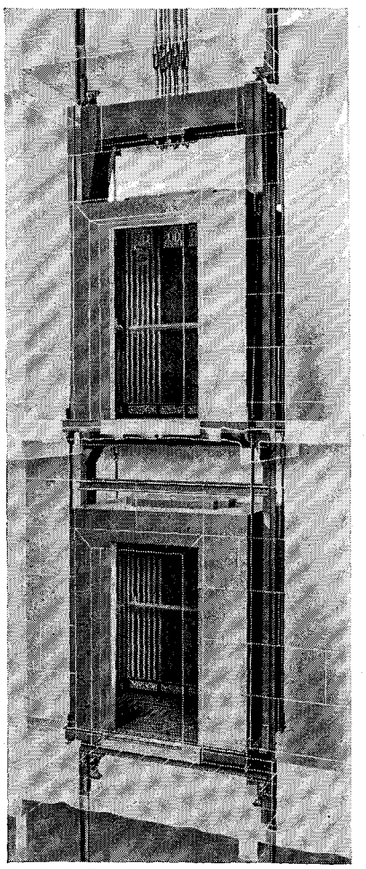
A complete air conditioning unit for residential or large building work is provided by the "Bryant Dualator," manufactured by the Bryant Heater & Mfg. Co., of Cleveland, Ohio.

There are now on the market individual humidifiers, air cleansers, circulators and combined purifiers and sound deadeners for windows. We list some of these under heating and ventilating.

What Modern Lighting Means

Science and craftsmanship are happily combined to make the lighting of the modern home, office, or auditorium beneficial to our eyes and charming to our esthetic senses. Hit or miss placements have been replaced by scientific locations. The aim no longer is just light but correct light. Artistry has replaced garishness in fixtures.

In the excellent "Home Lighting Course" conducted by the Westinghouse Lighting Institute of the Westinghouse Lamp Company, it is stated that the three types of lighting include direct, semi-indirect and totally indirect.



Courtesy Otis Elevator Company

America's First Double-Deck Elevators

"The most important thing to guard against in home lighting is glare which produces eye-strain.

"To-day's lighting must obey at least three fundamental rules:

"1. There must be light *enough* so that one may see clearly without strain. For instance, a 60-watt lamp is necessary in a bridge lamp for eye comfort.

"2. *Shades* must be placed on incandescent lamps, to avoid harmful, glaring light.

"3. Light must be *adapted to its purpose*, whether it be for a party, for a conversational evening, or for close work.

"*Adequate home wiring* should provide for:

"(a) General lighting in all rooms of the house.

"(b) Local lighting for close work such as reading, sewing, etc.

"(c) Convenience outlets for utilitarian and decorative lighting, as well as other electrical uses such as the radio, fans, etc. A sufficient number should be installed to permit flexibility in furniture arrangement.

"(d) Special outlets for heavy duty appliances.

"(e) Switches that enable one to have light upon entering a room and to turn off the light upon leaving.

"Light, altho usually considered as utilitarian in the home, is now used for purely decorative purposes as well."

These include table decorations, garden lighting for summer parties, Christmas decorations, spotlighting, etc.

Makers of Lighting Equipment

General Electric Company, Cleveland, Ohio; Edison Mazda lamp, National Mazda lamp, General Electric Mazda lamp.
General Electric Company, Schenectady, N. Y.; floodlighting projectors, wiring devices, etc.
Benjamin Electric Manufacturing Company, Des Plaines, Ill.; Lighting equipment.
Curtis Lighting, Inc. (also New York City), Chicago, Ill.; Curtis period luminaries.
Graybar Electric Company, New York; enclosed and semi-enclosed lighting units and equipment.
Pittsburgh Reflector Company, Pittsburgh, Pa.; permaflectors, silver-plated glass reflectors.
Gleaston-Tiebout Glass Company, New York; "Celestialite."
Macbeth-Evans Glass Company, Charleroi, Pa.; "Galax."
Beardslee Chandelier Mfg. Company, Chicago, Ill.; lighting fixtures.
Victor S. Pearlman & Co., Chicago, Ill.; "Lighting Fixtures."
Holophane Company, Inc., New York; illuminating engineering, scientific lighting equip.
Mitchell Vance Company, Inc., New York; lighting fixtures.
Sterling Bronze Company, New York; lighting fixtures.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.; sollux luminaries, sollaire and sollite units, etc.
Miller Company, Meriden, Conn.; "Duo-purpose" lighting.

Automatic Refrigerators

Automatic, iceless refrigeration keeps pace with automatic heating progress in home equipment. Refrigerators of this type work under thermostatic control and are operated by electricity, gas and oil.

New automatic refrigerators continue to make their début. The "Spartan" Electric Refrigerator, manufactured by the Sparks-Withington Co., Jackson, Mich., has just been placed on the market while a new electric refrigerator is about to be brought out by the Crosley Radio Corporation of Cincinnati. Meanwhile the established makes are being extensively installed.

"Frigidaire" electric refrigerators and cooling equipment are made by the Frigidaire Corporation of Dayton, Ohio, a subsidiary of General Motors Corporation. General Electric refrigerators and an entirely new system of commercial refrigeration are products of the General Electric Corporation, Cleveland, Ohio. Faraday Refrigeration Corp., Dayton, Ohio, subsidiary of General Motors Corp., is shortly introducing a gas operated refrigerator. Kelvinator, one of the oldest makes of electric refrigerators, is the output of the Kelvinator Sales Co., Detroit. The Westinghouse Electric Refrigerator is built by the Westinghouse Electric & Manufacturing Co. of Mansfield, Ohio. "Electrolux" Gas Refrigerator offered by the Electrolux Refrigerator Sales Inc., Evansville, Ind., and the Servel Electric Refrigerator by the Servel Sales Co. of New York. The Bohn Electric Refrigerator is manufactured by the Bohn Refrigerator Co. of St. Paul, Minn. The Mayflower electric refrigerator is made by the Trupar Manufacturing Co., Dayton, Ohio, and the Copeland electric refrigerator by the Copeland Products Co., Mt. Clemens, Mich. Grigsby-Grunow Company of Chicago make the Majestic Electric Refrigerator, while the Welsbach electric refrigerator is the product of the Welsbach Co., Gloucester, N. J.

"Federal Electric Refrigerators" are made by the Federal Metal Products Corp., Hoboken, N. J. Williams Ice-O-Matic refrigerator is made by the Williams Oil-O-Matic Corp., Bloomington, Ill., and the Norge electric refrigerator by the Norge Corp., Detroit. Operated by kerosene oil the "Super-Fex" is made by the Perfection Stove Co., Cleveland, Ohio.

(*Continued on page 51*)

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The Tax-Burdened Cigaret

WITH CONGRESS HARD AT IT on taxation problems, a strenuous campaign is being launched by at least four of the industries to be affected by the proposed miscellaneous taxes, the four being tobacco, automobiles, petroleum, and amusements.

The tobacco people are making a particularly active fight.

We are reminded in *The Wall Street Journal* that an additional yield of $70,000,000 in Federal revenue is expected from the proposed increase on tobacco products. But, we read in this newspaper, the tax increase "would not yield the Government such an increase in revenue, because the more heavily taxed products are being consumed in smaller quantities in this year, and those which bear a smaller impost are making a better showing."

"The depression cycle has at last reached the cigaret business," says a memorandum issued by tobacco dealers. Government figures show that the total production of cigarets in 1931 amounted to 113,449,048,600, a reduction of 6,000,000,000 from 1930. And the idea that a drop in the cigaret business was compensated for by an increase in the sales of other tobacco products is disproved, according to the tobacco people, by the drop of $21,000,000 in total tobacco taxes. In particular, say the tobacco merchants, as a result of buyers' strikes, in States taxing cigarets, "cigaret sales in these States have dropt to less than half of the average per capita sales in the United States."

While it warns the Federal Government that higher taxes on tobacco would not yield the expected additional revenue because of the drop in consumption, *The Financial World* feels that in some ways the proposed Federal tax increase is not so important "as the growing tendency of the various State governments to place additional taxes on tobacco products resulting in double taxation."

A RECENT survey by the Liggett & Myers Tobacco Company shows that thirteen States now have a tax on cigarets, that twenty-three others have considered and rejected such a tax, and that ten States have never considered such a tax.

The cigaret tax is getting to be "a sort of national fad," remarks the New York *World-Telegram*. It notes that the tax is considered easy to levy and, besides, cigarets "are looked upon by many as a luxury, the curbing of which would help morals and improve health." But the New York daily, considering the fact that the consumer now pays a six-cent tax on every package of fifteen-cent cigarets he buys, declares that a State cigaret tax on top of all this is "a species of highway robbery, an outrageous imposition upon the good-nature of smokers." Plain justice, concludes this paper, "adds its condemnation to any suggestion of a new burden for the already excessively burdened cigaret."

These Thirteen States Tax Cigarets

State	*Tax Rate*
Alabama	15%
Arkansas	5c.
Georgia	20%
Iowa	2c.
Kansas	2c.
Mississippi	20%
North Dakota	3c.
Ohio	2c.
South Carolina	3c.
South Dakota	3c.
Tennessee	4c.
Texas	3c.
Utah	2c.

Arguments against State cigaret taxes are made in the New York *Times* by the counsel to the Tobacco Merchants Association. This gentleman calls the tobacco tax "an arbitrary impost on the poor," which is bound to arouse general resentment, and which the State can not efficiently collect. As we are told:

The Federal Government can and does protect its tobacco revenues by levying import duties and maintaining an elaborate customs service, but the States are powerless in such matters. They have no power to regulate interstate commerce, and can not utilize the methods of the Federal Government; while, on the other hand, they can not afford to maintain the swarms of inspectors requisite for even a semblance of supervision over the retail tobacco trade.

From the New York *Times*

Who Gets That 15 Cents?

Where the cigaret smoker's money goes when there is no State Tax

In the few States which have taxed cigarets (mostly wheat and cotton States), the tax has been a disappointment, and its apologists are continually busy making explanations for its failure, and offering amendments to make it effective.

The average American smokes forty-nine packages of cigarets per annum. Regular users smoke much more than this average, and there are many millions who smoke around 300 packages a year. Even a small tax would cost such a smoker some $6 a year, added to a Federal tax of $18, and it is not surprizing to find that the arts of bootlegging and pocket-smuggling reach perfection in a tobacco-taxing State.

THE two principal methods of evading State cigaret taxes are bootlegging and direct mail-order sales. As we read in *Barron's Weekly:*

Tax-administrative officers maintain they have fair success in preventing the former, but acknowledge lack of jurisdiction over the latter. With the saving by mail order ranging from 20 to 50 cents a carton of ten packages, it is not improbable that mail-order sales of cigarets will grow.

Who gets the fifteen cents you pay for a pack of cigarets? Herschel Deutsch answers the question in *Advertising and Selling* (New York).

Out of the fifteen cents you pay for a pack of cigarets, about three cents are divided between the storekeeper and the wholesaler. The tobacco-grower, for his pains, and the manufacturer, for his split, another six cents or so. The remaining six cents go to the Government of the United States of America.

On top of this, in thirteen States at present, State taxes running as high as four and five cents per pack are levied and added to the retail price.

THE same writer discusses the effect of these State taxes:

The immediate result of the extra tax measures in every one of the thirteen States where they are in effect has been a big drop in cigaret sales. While the per capita consumption of cigarets for the whole country was 975.1 last year, the figures in States having taxes are well below that. (Kansas, 326.1; South Dakota, 451.2; Utah, 373.2; Iowa, 567.8; North Dakota, 249.9, etc.).

In cities near the borders of non-tax States, inevitable bootlegging has taken place. The Ohio tax law went into effect in September, and Cincinnati is now in the throes of a cigaret price-war in which the amount of the tax, two cents, is being slashed off the slender profit in an effort to keep the business which is going to tax-free Kentucky, across the river. If, as seems likely, New York State passes a tax law, the same situation might well develop between New York City and Hoboken.

However, the bootlegging and the mail business which have been going on between the taxed and the untaxed States have not increased the sales in the supplying States sufficiently to compensate for the loss shown by the others. Month after month, recently, the total of cigaret sales for the whole country as indicated by the Internal Revenue Department figures has continued to show a decrease. But, as cigaret sales have dropt, package tobacco and cigaret papers have gone up substantially. A roll-your-own movement is blossoming. A dozen or more devices to help the

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87TH ANNUAL STATEMENT, DECEMBER 31, 1931

ASSETS (itemized below)	$1,890,144,880.69
LIABILITIES (itemized below)	$1,770,472,137.51
EXCESS OF ASSETS OVER LIABILITIES (General Contingency Fund)	$ 119,672,743.18

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ASSETS

		Per Cent of Total
Cash on Hand or in Bank	$ 9,792,153.75	.52
United States Government Bonds	47,531,980.91	2.51
State, County and Municipal Bonds	115,177,905.97	6.09
Public Utility Bonds	151,189,300.14	8.00
Industrial Bonds	19,793,579.91	1.05
Railroad Bonds	383,112,490.26	20.27
Canadian Bonds (Dominion, Province, City, etc.)	38,381,749.63	2.03
United Kingdom of Great Britain & Ireland Bonds	4,984,694.80	.26
Other Foreign Bonds	2,179,464.57	.12
Preferred and Guaranteed Stocks	62,402,545.00	3.30
Real Estate Owned (including Home Office)	37,777,895.52	2.00
First Mortgages on City Properties	547,233,154.68	28.95
First Mortgages on Farms	26,003,152.14	1.37
Policy Loans	379,479,403.29	20.08
Interest and Rents Due and Accrued	31,938,020.47	1.69
Other Assets	33,167,389.65	1.76
Total	$1,890,144,880.69	100.00

(In this statement bonds not subject to amortization and all stocks are valued at market quotations as of December 31st.)

LIABILITIES

Reserves—For All Contractual Obligations	$1,698,495,195.70
For Dividends Payable in 1932	63,210,338.00
For Taxes	6,463,925.07
Other Liabilities	2,302,678.74
Total Liabilities	$1,770,472,137.51
General Contingency Fund	119,672,743.18
Total	$1,890,144,880.69

POLICY PAYMENTS AND INSURANCE STATEMENT

Paid to Living Policyholders (Including Dividends)	$156,096,109.08
Paid to Beneficiaries in Death Claims	71,487,826.31
Total Paid to Policyholders and Beneficiaries in 1931	$227,583,935.39
New Insurance Paid for in 1931	$673,123,000.00
Insurance in Force December 31, 1931	$7,657,373,158.00

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LIFE ALLOWS YOU

4

DEPRESSIONS

THE average investor's life spans eight to ten depressions. Three or four are gone before he knows what to do with them. Yet, if he is wise and able, he may profit substantially from the remaining ones. During every major decline, thousands of investors have established the foundations for future independence by the purchase of sound securities whose values rose with the recovery of American business.

● From all the common stocks listed on the New York Stock Exchange, 34 were selected recently by an experienced research department after months of painstaking investigation as offering unusual possibilities *as a group* for the long-term investor today. A circular containing a list of these stocks and details concerning a common stock investment program based on these selections will be sent immediately, free of charge, on request. Information is also available through any of the 1500 banks and security dealers distributing the new issues of NORTH AMERICAN TRUST SHARES, 1955 and 1956.

● That these stocks must reflect the long-term trend line of American business is indicated by such facts as these: (1) The market value of all outstanding common shares of these 34 great companies equals approximately 50% of the market value of all common stocks listed on the New York Stock Exchange; (2) Their subsidiaries number more than 1600, doing business in virtually all parts of the world; (3) The combined total assets of the 34 corporations exceed 24 billion dollars.

● *See a* NORTH AMERICAN TRUST SHARE *dealer today or write to the address below. Ask for circular L-2.*

To Holders:

HOLDERS of NORTH AMERICAN TRUST SHARES (original issue) should obtain complete information concerning a preferential offer now being made by dealers in NORTH AMERICAN TRUST SHARES.

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North American TRUST SHARES

untrained roll their own cigarets have leapt into the field. The thirteen cigaret-taxing States are flooded with these devices, and it is estimated that at least a million of them have been sold.

The point is, of course, that while the depression might have been reason enough to justify general public interest in the economy to be effected through the roll-your-own method, it has taken the impetus of increased taxation to put these devices over. Altho one or two manufacturers make some slight attempt to spread their sales, the majority concentrate their efforts in the thirteen tax States, and only institute a sales program elsewhere when a tax measure seems imminent.

Living's Ten Per Cent. Lower This Year

THE cost of living has been going down of late.

"Every housewife knows it."

"Bargain sales emphasize it."

And now, "the cold and somewhat belated statistics merely confirm it," observes the Boston *News Bureau*. The Labor Department's Bureau of Labor Statistics is out with its December figures on living costs, gathered from thirty-two cities. The actual decline between December, 1930, and December, 1931, was 9.3 per cent.

The largest decline in the six groups making up the total living cost was for food, with a reduction of 16.6 per cent. for the year. Clothing dropt 11.4 per cent.; house-furnishing goods, 11.2 per cent; rent, 2.8 per cent.; fuel and light, 4 per cent., and miscellaneous items, 1.2 per cent. The New York *Times*, reporting these figures in one of its Washington dispatches, also notes that the decline for the second half-year was somewhat slower than in the first half, the December average being only 3 per cent. lower than that of June. While the wholesale prices are considered to be now down at the prewar level, it is pointed out that living costs in December, 1931, were still 45.8 per cent. above the 1913 level.

NATURALLY, there is a great variation in living costs in the various sections of the country. The percentages for the year declined as follows in the various thirty-two cities covered by the report:

Baltimore, 8.4; Boston, 9.5; Buffalo, 10.4; Chicago, 9.9; Cleveland, 9.7; Detroit, 12.2; Houston, 8.8; Jacksonville, 10.5; Los Angeles, 8.2; Mobile, 10.6; New York, 9.3; Norfolk, 9.7; Philadelphia, 8.5; Portland, Maine, 7.7; Portland, Oregon, 6.8; San Francisco, 8.8; Savannah, 9.7; Seattle, 6.6; Washington, 8.4; Atlanta, 10.2; Birmingham, 12.9; Cincinnati, 9.3; Denver, 9.8; Indianapolis, 10.5; Kansas City, 8.2; Memphis, 9.9; Minneapolis, 7.7; New Orleans, 9; Pittsburgh, 9.3; Richmond, 8.2; St. Louis, 11.0; Scranton, 9.3.

Commenting on the fact that retail prices —or the cost of living—are still well above the 1913 mark, while wholesale prices are now actually below that level, and in some cases far below it, the New York *Journal of Commerce* says editorially:

There is still room for far-reaching adjustments if the gap between wholesale and retail prices is to be closed. It does not follow, however, that further drastic declines in living costs will occur, since a rise in wholesale prices of many abnormally deprest commodity groups is to be expected.

The great changes that have occurred in distributive processes and in costs of distribution make it unlikely that wholesale and retail prices will ever return to their prewar relationships. Since wages are a large item in distributive cost, the existing high level of wage rates goes far toward explaining why retail prices have shown superior resistance to deflationary pressure.

So long as wage rates remain substantially above the levels of 1913, the prices of the goods and services that labor produces and buys will also remain relatively high. This is partly because the labor cost of distribution will be high, as compared with the prewar years, and partly because the returns received by those who constitute the great body of retail purchasers will also be relatively high.

Despite the numerous reductions in wage rates that have occurred in recent months, the rate of pay as distinguished from the earnings of wage-workers is still far above the level of 1913 for the majority of employed men. The downward movement of living costs, therefore, will necessarily be slow so long as this situation continues.

Why Finance Companies Don't Fear Depressions

WE used to be told that a serious business depression would raise havoc with the finance companies. They would be loaded up with huge quantities of uncollectible instalment contracts, and many of them would be forced to the wall. But when the present depression had gone far enough to enable the statisticians to check up, it was found that these fears were unjustified. As the Chicago economist Milan V. Ayres puts it in *The Banker's Monthly:*

Out of the billion dollars or more which they had out on loans to finance companies continually during 1929, there were no losses that we have been able to discover. If there were any, they must surely have amounted to an almost infinitesimal fraction of 1 per cent.

This fact has, of course, been stated again and again, but Mr. Ayres goes on to tell the reason why. The points he makes are summed up briefly in *The Banker's Monthly*. This, in a nutshell, is why our finance companies withstand hard times so successfully:

1. The buyer stands to lose too much, if he stops paying. Usually, a down payment and one-half the remaining payments are made on an article before a depression is felt.
2. The drop in employment comes first among the kind of employees who do not contract instalment obligations.
3. The other employees pay off old instalment contracts, but do not make new ones during a depression.
4. Loans to finance companies are secured by a variety of underlying notes of different makers. There is little likelihood of enough of them defaulting to jeopardize the solvency of the finance company.
5. The finance company has no inventories and no plant investment.

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(*Continued from page 47*)

Advance in Elevators

Elevators of the lofty modern business structure form a transportation system with traffic problems akin to those of urban railways.

Before provision is made for them the most careful study is given to character of tenancy, volume of traffic, proximity of building to surface or subway lines, etc.

They must provide facilities for handling the morning in-rush wave as well as the evening exodus peak without undue delay to the building's population. To afford even service—twenty seconds should be the average time between stops for waiting passengers in buildings with diversified tenancy—intelligent and careful dispatching is necessary.

Safety and speed are the triumphs of elevator engineering. Modern elevators operate on the automatic signal control which causes them to stop level and doors to automatically open. The fastest elevators now running are those in the Empire State Building, New York, the world's loftiest structure, which operate on a schedule of 1,200 feet F. P. M. (feet per minute).

Maximum passenger capacity within minimum hatch area is being attained by new methods.

The latest of these is a double-deck elevator invented and built by the Otis Elevator Company, New York, for seventy-eight years a leader in the elevator industry. The first installation of elevators of this type is for the tower service of the new Cities Service Building. They are automatic elevators with two lower terminals and are equivalent, as E. Q. Yearsley of the Engineering Department of the Otis Elevator Company says, "to adding cars to a train."

In the building above mentioned the double-deck elevator means a saving in hatch area permitting an additional $84,000 in rentals. Eight double-deck elevators will handle as many passengers in a given time as fourteen single-deck elevators.

Another recent development for handling intensive elevator traffic speedily is an automatically regulated system of operating two cars separately in the same shaftway, sponsored by the Westinghouse Electric Elevator Company, Chicago, Ill.

While the elevator is as necessary to the tall building as the train is to the suburbs, it is coming to be found an indispensable convenience in larger residences. One authority has remarked that it is almost impossible to sell a large residence in New York unequipped with elevator service.

For residents in less pretentious houses, with families having invalids or weak hearts, and providing strain-free travel between floors in the "one family" home, an Individual Elevator is now being featured by the Sedgwick Machine Works, a long-established New York manufacturer of dumb-waiters and elevators. This elevator may be installed in any house without the need of extensive alteration. It is moderately priced and may be purchased on deferred payments. Descriptive literature shows that this elevator is quiet in operation, attractive in appearance, and may be operated with complete safety by any one, even a child.

Among Manufacturers of Elevators:

Otis Elevator Co., New York.
American Elevator & Machine Co., Louisville, Ky.
Burwak Elevator Co., New York, N. Y.
Capital Life & Mfg. Co., Columbus, Ohio.
Elevator Mfg. Company of America, Chicago, Ill.
Gurney Elevator Co., New York, N. Y.
Haughton Elevator & Machine Co., Toledo, Ohio.
Inclinator Co. of America, Harrisburg, Pa.; "Inclinator," "Elevette" home elevators.
Kimball Bros. Co., Council Bluffs, Iowa.
Gust. Lagerquist & Son, Minneapolis, Minn.
Marshall Bros. Co., Pittsburgh, Pa.
Montgomery Elevator Co., Moline, Ill.
A. B. See Elevator Co., Inc., New York, N. Y.
Shepard Elevator Co., Cincinnati, Ohio.
Warner Elevator Mfg. Co., Cincinnati, Ohio.

Pride of the Kitchen

To-day's kitchen, colorful and immaculate, is the embodiment of convenience and daintiness. Its walls glisten with tiles; its floor has the richness and comfort of linoleum. Modern plumbing contributes to its sanitation. A cabinet gas range reminds us that the stove may now be ornamental. An automatic refrigerator relieves us of our cooling worries, a dishwasher saves drudgery.

But even with all these blessings the kitchen or butler's pantry would be incomplete and inconvenient without one of the tasteful and orderly kitchen cabinets which conserve time and steps.

Cabinets and Ranges

Hoosier Mfg. Co., New Castle, Ind.; cabinets.
Janes & Kirtland, New York; cabinets.
G. I. Sellers & Sons Co., Ellwood, Ind.; cabinets.
Wasmuth Endicott Co., Andrews, Ind.; cabinets.
American Stove Co., St. Louis, Mo.; "Magic Chef."
Detroit-Michigan Stove Co., Detroit, Mich.; "Garland" ranges.
Estate Stove Company, Hamilton, Ohio; "Estate" gas and electric ranges.
Glenwood Range Co., Taunton, Mass.; "Glenwood.
Roberts & Mander Co., Phila., Pa.; "Quality."
Landers, Fray & Clark, New Britain, Conn.; "Universal."
Edison Electric Appliance Co., Inc., Chicago, Ill.; "Hotpoint."
Electromaster, Inc., Detroit; "Electro-chef."
Standard Gas Equipment Corp., New York; "Vulcan Smoothtop" and "Oriole."

Enough Home Phones

While practise has dictated that the well-outfitted business establishment shall have ample telephone facilities, increasing attention is now being given to equipping the home with similarly adequate service.

As the American Telephone and Telegraph Company points out:

"By running inexpensive pipe during construction, telephone wires can be entirely concealed, and the telephone company will place the wires at the proper time so as to avoid marring walls, trim, etc."

Descriptive booklets and free advice are obtainable from the above company.

For the Garage

A large selection of hardware, doors, etc. is available for garage builders. Manufacturers whose output includes garage hardware are listed under "Building Hardware."

Of first importance to the garage are its doors. Among the largest manufacturers of these is the Overhead Door Corporation of Hartford, Indiana.

Automatic garage doors operated by electricity are specialties of the Automatic Door and Equipment Company of Chicago.

Other Makers

Allith-Prouty Company, Danville, Ill.
Columbus Rolling Door Corp., Columbus, Ohio.
McCabe Hanger Mfg. Co., N.Y.; door hangers.
Richards Wilcox Mfg. Co., Aurora, Ill.; door equipment.
McKee Door Company, Chicago, Ill.; doors, etc.
Farley and Loetscher Mfg. Co., Dubuque, Iowa; "Weatherseal" doors.
Frantz Manufacturing Co., Sterling, Iowa; door equipment.
Kinnear Mfg. Company, Columbus, Ohio; doors.
The Majestic Company, Huntington, Ind.; "Verti-fold" door.
Topping Mfg. Company, Ashland, Ohio; doors.

Seating Engineering

Correct posture in the schoolroom, comfort in the theater and store, architectural attraction for the church, have all been reduced to an exact seating science.

Among the largest manufacturers are the American Seating Company of Chicago, exclusively designers and manufacturers of seating and furniture for public or semi-public buildings and institutions. Illustrated educational booklets are available from this concern.

Drinking More Pure Water May Be The Answer

Renewed Vigor And Greater Zest for Life

DRINK Poland Water

Booklet, "Mineral Waters Therapeutically Considered" Mailed on request.

HIRAM RICKER & SONS, Inc.
POLAND SPRING, MAINE

REDUCE Waistline 2 to 4 Inches *in 10 DAYS*

or Your Money Refunded

"Director Belt reduced my waistline from 42 to 33 inches," says R. A. Lowell of Des Moines, Ia., "I tell all my friends about it."

IF your waistline is too large you surely ought to test Director Belt. If it doesn't reduce your waistline from 2 to 4 inches in 10 days we will return your money immediately. Director is easy and comfortable to wear. It applies a gentle, changing pressure upon the fat at the waistline and produces results similar to a massage. Director Belt has been successful in reducing the waistline of so many thousands of men that we can make this unusual offer and have you test it at our expense.

Gone—That Bulging Waistline

You will be pleased with the appearance of reduced girth which Director gives you immediately you put it on. Then you will find it a simple, easy way to reduce. No exercises, diet or drugs.

Send for FREE FOLDERS

These folders tell the complete story of Director Belt and just how it works. Find out what thousands of men in all professions say about results obtained for them by a Director Belt.

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Gentlemen: Without obligation on my part please send me free folders telling complete story of Director Belt and give full particulars of your 10-day trial offer.

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THE SPICE OF LIFE

(TITLE REGISTERED IN U. S. PATENT OFFICE)

Ask Mom, She Knows.—There are three kinds of mules, the old gray, the white, and the kind your wife married.—*Cincinnati Enquirer.*

Fatted Calf.—"I wonder how Thanksgiving originated?"

"It was probably instituted by parents whose sons had survived the football season."—*Boston Transcript.*

Evidently a Modernist. — WAITER — "These are the best eggs we have had for years."

DINER—"Well, bring me some you haven't had so long."—*Royal Arcanum Bulletin.*

Lady of the Long Bow.—"Does your wife ever overdraw her bank account?"

"No, but I think she overdraws her account of her bank account to impress the neighbors."—*Boston Transcript.*

Birth of a Beautiful Friendship. — "I'll be frank with you," said the young man when the embrace was over. "You're not the first girl I ever kissed."

"I'll be equally frank with you," she answered. "You've got a lot to learn."—*Lehigh Burr.*

Pirate's Ghost in the Moated Grange.—"Strange Foods Novelists Eat" is the title of a magazine article. But think of some of the strange things they ask their readers to swallow.—*Boston Transcript.*

Thrift First.—ANXIOUS MOTHER (whose son has just been saved from drowning)—"Are ye the mon who rescued our Angus? Where's his bonnet?"—*From "Wee Drappies" by Sir Harry Lauder (Hutchinson & Company).*

Home Stretch.—

They sat alone in the moonlight,
And she soothed his troubled brow,
"Dearest, I know my life's been fast,
But I'm on my last lap now."
—*Wet Hen.*

Excuse It, Please.—

Beneath this grassy mound now rests
One Edgar Oscar Earl,
Who to another hunter looked
Exactly like a squirrel.
—*Philadelphia Inquirer.*

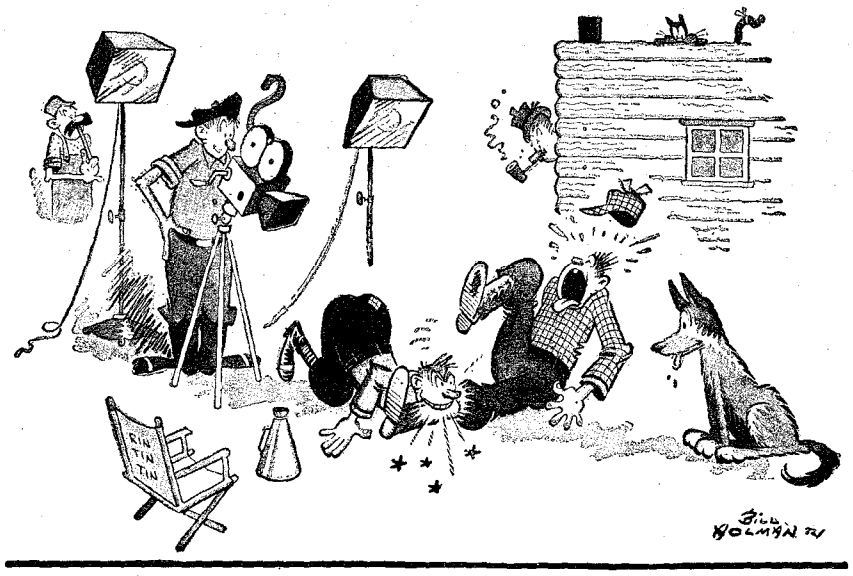
And under this—a lonely pile,
Lies Rufus Rastus Babbitt;
He looked the part, a gunner thought,
And shot him for a rabbit.
—*Cincinnati Enquirer.*

Beneath this weeping willow tree
Lies Edward Everett Bier,
Who, by another hunter, was
Mistaken for a deer.
—*Buffalo News.*

Now You See It, Now You Don't.—PROFESSOR OF CHEMISTRY—"Which combination dissolves gold quickest?"

STUDENT—"The marriage combination."—*Die Lustige Kiste (Leipzig.)*

Hoot Mon!—SCOT—"This London's a fine toon. There's free parks with free music, free museums, free picture galleries, and in the grand restaurants where I get my dinner I'm always coming across a threepenny bittie hidden under the plate as a surprize."—*Quoted by the Passing Show (London), from "Wee Drappies," by Sir Harry Lauder (Hutchinson).*



Director: Bite him like this, see?

—"Judge."

Human Postage-stamp. — Bob Washburn plausibly explains why the late Bishop Stuck never wrote his autobiography. All the humorists of Christendom would have titled it, "Stuck on Himself."—*Lowell Courier-Citizen.*

Why Love Fled From Hollywood.—"So the marriage of those two movie-stars has been called off, eh!"

"Yes; they couldn't agree as to whose name should be first on the wedding invitations."—*Boston Transcript.*

Next!—Sing this one before your mirror some morning.

Leslie L. Shaver, 1722 Polk Street N. E., applied for a license to marry Iola M. Barber to-day.

It's no mere scraping acquaintance, either.—*Minneapolis Journal.*

Half Price Spinach.—There's a Hollywood extra whose beard is so long that he charges more than the regular "extra" price, $7.50 a day, to work in a scene. He asks and gets $15 a day!

But business is slack. So, the other day, when a quickie producer called him up and said, "We need your beard; we'll pay you $7.50, not a cent more!" the bearded one accepted.

But when he showed up on the set, his beard was folded in half, and hairpinned up so that it was only half as long as normal.—*New York Morning Telegraph.*

Slips That Pass in the Night

Somebody Disarm Bossy.—
Enraged Cow Injures Farmer With Ax
—*Wichita Falls (Tex.) Record News.*

All Set for a Joy Ride.—FOR SALE—Model T Ford parts—tires, tubes, one battery, also a stove-pipe.—*Orrick (Mo.) paper.*

As Usual.—On Tuesday afternoon, eight ladies of the neighborhood were guests of Mrs. L——. Catting over needlework and refreshments were enjoyed.—*Brookings (S. D.) paper.*

Must Be Tired.—Lost—Black and white hound pup—about eight months on right hind leg.—*Bristol (Virginia-Tennessee) paper.*

Referred to Al Jolson.—Dr. Barnhart said the most reliable statistics show "the United States is the most mudderous country in the world."—*Boston Traveler.*

Naughty, Naughty!—John Yorke, who recently shot and killed Bert Evans while hunting deer out of season, pleaded guilty to a charge of illegal hunting and was fined $25 by United States Commissioner C. Clausen.—*Petersburg Alaska Herald.*

Gudgeons Beware!—
Stock Market Rallies Again—
Sharks 1 to 5 Points Higher
—*Burlington (Vt.) Free Press and Times.*

Oh, Fie!—Dr. Earl Anderson, pastor of the Fundamentalist Baptist Church, where the memorial was held, spoke on "A Klansman's Hope of Immorality."—*Dallas Dispatch.*

Open the Dungeon Door.—In several cases, north and east of the bay area, roads were being operated as one-way highways, and motorists were required to wear tire chains.—*Oakland Tribune.*

Are They Throwing the Bull?—Wanted—Cow (white) in family of six. Country position the year around. References for honesty, neatness and good temper required. Wages $75.—*Greenwich (Conn.) newspaper.*

And the Capones?—Haemophilia is a condition of the blood which prevents coagulation and the healing of wounds. It is a disease which has run a strange and constant course through many royal families, including the Rasputins of Russia and the Bourbons.—*San Francisco Chronicle.*

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